

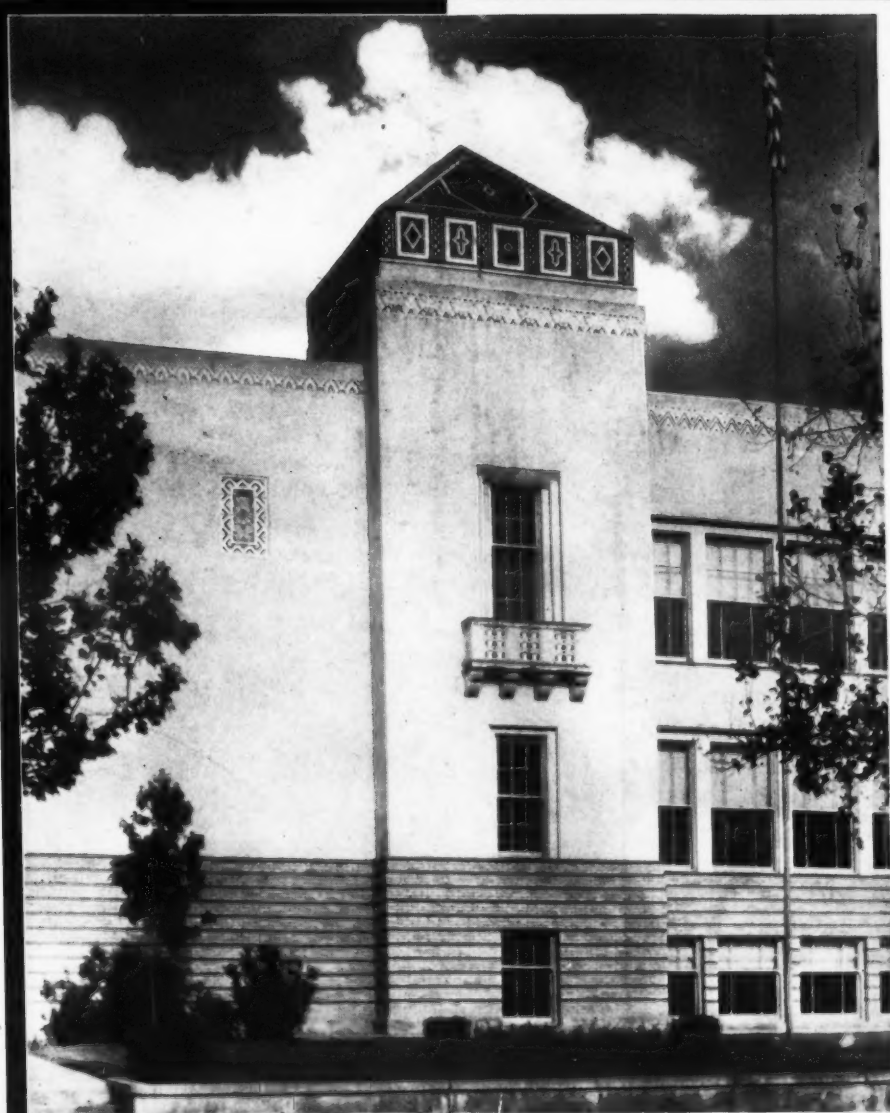
PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

MAR 3 1933

THE AMERICAN

School Board Journal

A Periodical of School Administration



March 1933

THE BRUCE PUBLISHING COMPANY
MILWAUKEE

NEW YORK

CHICAGO



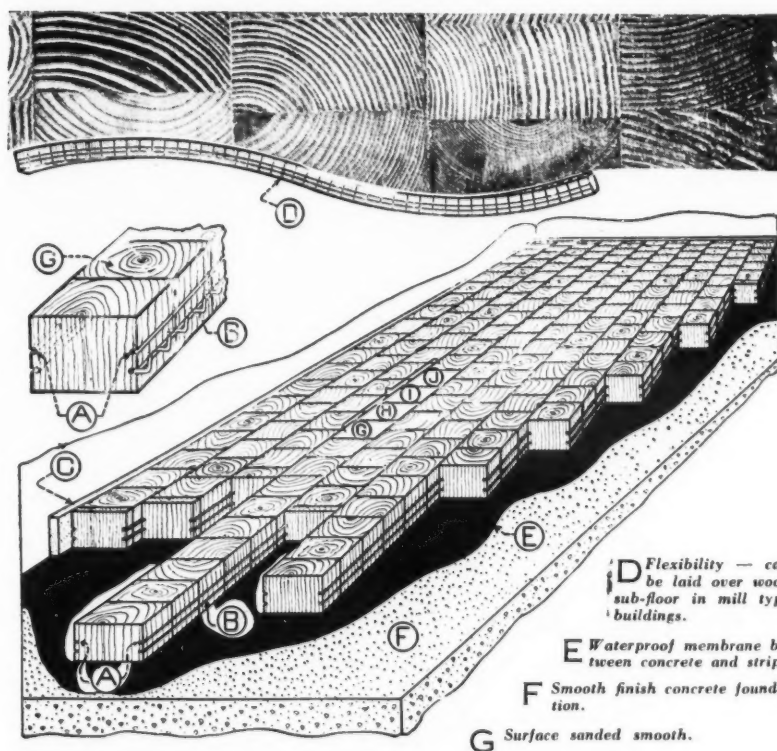
The new Mechanical Engineering Building of
Purdue University,
Walter Scholer, Architect; A. E. Kemmer, General Contractor,
Both of Lafayette, Indiana.

Investigation Inevitably Leads You to Kreolite

No detail of school building construction is more important than the flooring. And the more this requirement is analyzed and investigated the more inevitably is indicated Kreolite as the one outstanding modern school flooring.

Sixteen hundred and sixty-one square feet of Kreolite Flexible Strip Wood Block Flooring are laid in the fine new Mechanical Engineering Building of Purdue University. This is only one of many conspicuous new public buildings in which Kreolite Flooring is the selection after careful investigation. Economic necessities, utility, durability, comfort and eternal fine appearance—all are served by Kreolite alone.

We will gladly and freely give you the benefit of Kreolite engineering knowledge and experience on any problem of flooring for educational buildings. Write for detailed information.



- A Metal wire truss binding the individual blocks into a compact, solid, monolithic-like plank or strip.
- B Metal spline binding the individual strips together.
- C Cork expansion joint laid flush with the surface of the floor.

- D Flexibility — can be laid over wood sub-floor in mill type buildings.
- E Waterproof membrane between concrete and strips.
- F Smooth finish concrete foundation.
- G Surface sanded smooth.
- H Manufactured from properly dried yellow pine or redwood.
- I Treated with a colorless, odorless, water-proofing preservative.
- J Blocks run full depth of strips, each block being anchored to the base, in a bed of mastic. Laid with the tough end grain up.

THE JENNISON-WRIGHT COMPANY
TOLEDO, OHIO • Branches in All Large Cities

KREOLITE

END GRAIN

• FLEXIBLE STRIP WOOD BLOCK FLOORING •

THE EYES—THE HEART—

THE LUNGS AND

THE SPINE

FACTS YOU SHOULD KNOW ABOUT SEATING AND PUPIL HEALTH

BEND over when seated and try to fill your lungs with a deep breath. It's difficult. Now you know how pupils—humped over obsolete school desks hour after hour—cramp the lungs, heart and other vital organs as well. Seated that way, the child's spine is distorted, his eyes are strained. He works under a physical handicap. Bad posture soon becomes habitual. Sluggish circulation, slovenly thinking, ambitionless pupils result.

New seating, designed to induce correct posture and relieve eyestrain, provides comfort, permits concentration, encourages pupil effort, and improves classroom environment. The posturally correct, comfortable American Henderson-Universal Sight-Saving Desk is the newest model of a notable line of classroom furniture, which includes both fixed and movable pupils' desks, tablet arm chairs, chair desks, tables and chairs, all possessing comfort features which induce correct posture.

"American" desks—in these various types and models—are priced low enough to bring replacement within the limits of a reduced school budget. Reseating which contributes to a healthy body and an alert mind is a sensible expenditure which every thinking community will support.

American Seating Company

*Makers of Dependable Seating for Schools,
Churches and Public Auditoriums*

General Offices:

GRAND RAPIDS, MICHIGAN

*Branches or accredited distributors in
all principal cities and all trade areas*



AMERICAN SEATING CO., Grand Rapids, Mich.

(ASB-3)

Please send me, without obligation, FREE, a copy of your Posture Poster and copies of the booklets checked.

Name

Address

Position Number of Classrooms

(Indicate here whether you are a Superintendent, Principal or Teacher)

- ☐ Essentials of Hygienic Seating
- ☐ The Relation of Posture to Tuberculosis
- ☐ Ideals and Standards of Classroom Seating
- ☐ Scoliosis and School Seating
- ☐ The Buying of School Equipment

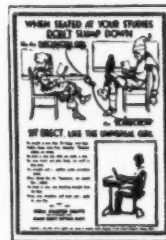


The Posturally Correct American Henderson-Universal Sight-Saving Desk

shown above induces natural, comfortable, correct posture. The tilting and sliding desk top insures reading or writing at the correct focal distance and proper angle of vision . . . thus minimizing eyestrain. Economical in final cost, this desk should replace obsolete types now in use.

SEND the COUPON for FREE Classroom Posture Poster and Seating Booklets

We will mail free to any school official or teacher a classroom posture poster in colors, size 17½ x 25 inches, which shows children why they should sit erect; it contains no advertising. With it, too, any of the posture booklets listed in the coupon. Send the coupon.



No. 262
Movable
Unit

Pittsburgh Steellex

FOR A
BETTER
JOB

the PLASTER and
STUCCO BASE *that*

REINFORCES
INSULATES
RETARDS SOUND
BACK PLASTERS AUTOMATICALLY
REDUCES CRACKING

PITTSBURGH STEEL COMPANY

Fabric Division

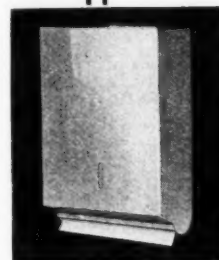
UNION TRUST BLDG.

PITTSBURGH, PA.



Pittsburgh
(NATIONAL)
Reinforcement
for
Concrete

BUILD FOR PERMANENCE



QUALITY plus HEALTH • SAFETY

Cross-creping makes Evergreen Double Duty Towels soothingly soft ... and the double sheet feature gives them five to six times greater drying efficiency. Evergreen Toilet Tissues are likewise remarkably soft and super-absorbent. Only Evergreen personal-use papers are processed with boric acid, the time tested, safe germicide. That means *health* and *safety* for the school children ... at no extra cost to you.

Evergreen

BORATED PROCESS

HOEERG PAPER & FIERE CO.

Manufacturers
GREEN BAY, WIS.



EVERGREEN
DOUBLE DUTY
TOWEL CABINET

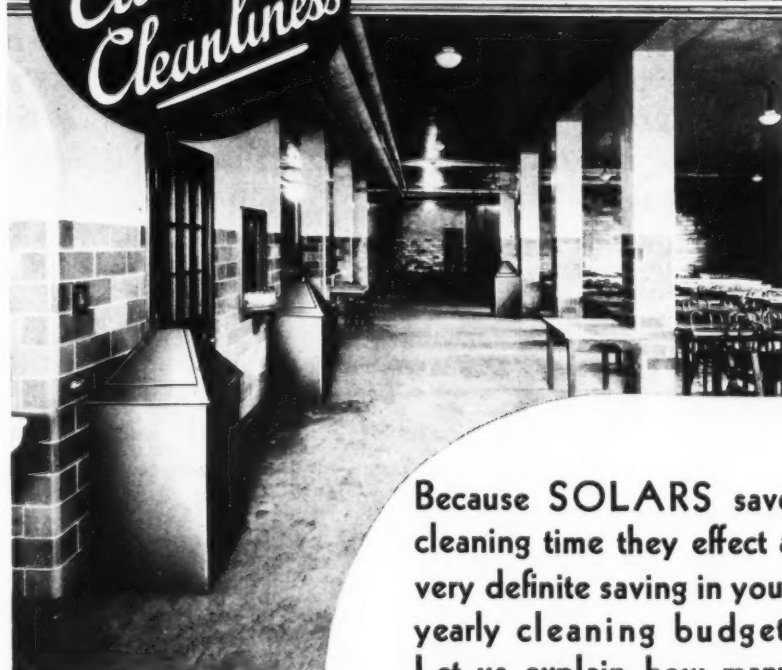


the surety
of safety

*a Short
Cut to
Cleanliness*

SOLARS

SAVE TIME & MONEY



Because SOLARS save cleaning time they effect a very definite saving in your yearly cleaning budget. Let us explain how many schools, STANDARDIZING ON SOLARS, have economized with respect to their cleaning costs.

Just a Post Card will bring the proof to you.

SOLAR-STURGES MFG. CO.
MELROSE PARK,
ILLINOIS



Hawthorne Intermediate School
Elmhurst, Illinois

E. Norman Brydges, Architect
Chicago and Elmhurst

SCHOOL BUILDINGS grow!

JOHNSON HEAT CONTROL KEEPS STEP WITH THOSE CHANGES . . .
CONTINUAL ADVANCEMENT AND CAREFUL STUDY OF NEW REQUIREMENTS FOR
NEARLY HALF A CENTURY!

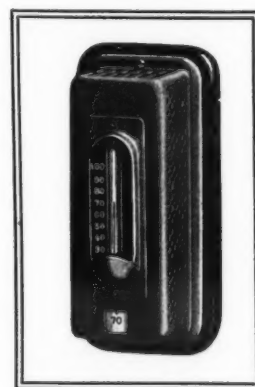
. . . THE ORIGINAL UNIT of the school building pictured above was built in 1919 and heated by a "direct blast" system. Johnson automatic heat regulation was installed to operate mixing dampers at the double plenum chamber, mixing hot and tempered air as required for each room.

In 1926 and 1927, the first and second additions were constructed and are heated by means of a "split" system. Johnson apparatus controls the direct radiators in the rooms and also maintains a uniform temperature in the ducts supplying air for ventilation. The original heating plant was not disturbed.

The third addition, 1929, is heated and controlled in the same manner. When this addition was built, the heating system in the original unit was changed to a split system, and the same Johnson thermostats were arranged to control the new heating apparatus.

In 1932, unit ventilators were installed in the fourth addition. Again the Johnson System was employed, this time to control valves and dampers in the unit ventilators, together with valves on the auxiliary radiators.

FIVE BUILDING PROJECTS :: THREE METHODS OF HEATING
ONE SYSTEM OF HEAT CONTROL



**MANUFACTURERS
 ENGINEERS
 CONTRACTORS**
*A Single Organization
 Operating Through
 Direct Factory
 Branches*

JOHNSON SERVICE COMPANY

Main Office and Factory

MILWAUKEE, WISCONSIN

Branch Offices in All Principal Cities

JOHNSON
 HEAT CONTROL

ONE WORD that counts most IN BUYING

Quality. That is what you get when you purchase A. P. W. Onliwon Toilet Tissue. Smooth, soft and strong textured. Especially recommended for school washrooms. Rightly priced, A. P. W. Onliwon Tissue will fit into the thriftiest 1933 budget.

A. P. W. ONLIWON SATIN TISSUE

1250 sheets per package. 80 packages or 100,000 sheets per case. Sheet sizes—5" x 5¾" and 4½" x 5¾".

A. P. W. ONLIWON TOILET TISSUE

1000 sheets to a package. 100 packages or 100,000 sheets per case. Sheet sizes—5" x 5¾", 4½" x 5¾", and 4" x 5¾".

Order also the quality A. P. W. Onliwon Towels, and have the complete Onliwon Sanitary Washroom Service in your school. A. P. W. Paper Co., Albany, N. Y.

Pioneers for Cleanliness Since 1877



TRADE-MARK REG. U. S. PATENT OFFICE

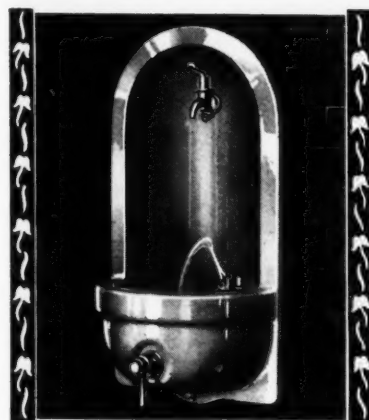
FREE: Samples of A. P. W. Onliwon Toilet Tissue and Towels. Simply clip, fill in and mail this coupon to A. P. W. Paper Co., Albany, N. Y.

Name.....Address.....

City.....State.....

No.
2631

Wall
Type



A POPULAR SEMI-RECESS TYPE

This is No. 2631, with glass filler, a semi-recess type that meets the approval of school authorities and architects alike, and that also meets the regulations of the American Public Health Association. Receptor above rim. Distinctive Halsey Taylor practical automatic stream control and two-stream projector. Write for full information.

THE HALSEY W. TAYLOR CO. • WARREN, OHIO



EVANS

"Vanishing Door" WARDROBE

Class J

equipped with either "Floor" type (as illustrated) or "Jamb" type hinges. This is Class D wardrobe if made with flush doors.

CLASSROOM WARDROBES

High in Quality — Low in Cost

This type occupies a recess flush with the wall. Plaster back and ends. No partitions, but with mullions between pairs of doors. Wire mesh ceiling. Blackboards if required.

The "Vanishing Door" hinges on which the doors are hung are made with double pivoted arms and swing the doors back into the wardrobe entirely out of the way. Simple—trouble-proof—and last as long as the building.

Wardrobes are furnished complete in the knock-down, with all woodwork cut to size, and only need to be nailed in place. The hinges are easier to put on than common butt hinges. The cost of installation is small.

We make many other types of school wardrobes, fully illustrated and described in Catalog "M." Send for your copy.

W. L. EVANS
WASHINGTON, INDIANA, U. S. A.

This **MODUSTAT**



SAVED

THAT is the record of the Glenwood Primary School, Glenwood, Minn., which was erected in 1904 . . . On January 1, 1932, a Minneapolis-Honeywell Modutrol System was installed. In the first three months, the fuel saving amounted to 31.74% with average outside temperature 10° colder . . . These results were so gratifying that a Modutrol zone control system was added to the original equipment last fall . . . The Modutrol System of temperature control can also effect important economies in your school, and provide healthful temperature as well. It has done so in hundreds of schools and other buildings, old or new, large or small . . . Our engineer will call on you at your request, without obligation, of course . . . Minneapolis-Honeywell Regulator Company, 2830 Fourth Avenue South, Minneapolis, Minn. Branch offices and distributors in all principal cities

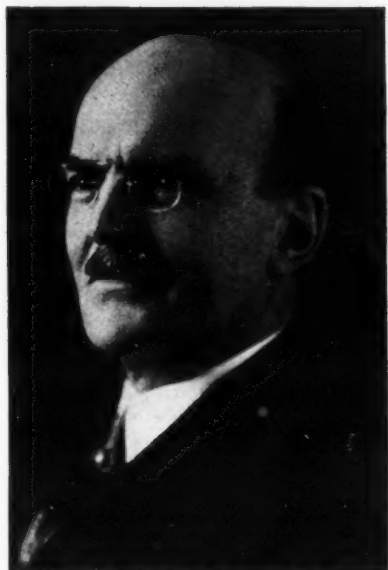
ONE SCHOOL 32%[★]
IN FUEL AND QUICKLY
REPAID THE INVESTMENT
in the
MODUTROL SYSTEM
of
TEMPERATURE CONTROL

★ Three months fuel bill without controls, \$419.85. With controls, \$286.60. Saving, \$133.25 or 31.74%, with outside temperature 10° colder. Cost of modutrol equipment, \$250. Figures from E. N. Nordgaard, Superintendent of Schools, Glenwood, Minnesota.

MINNEAPOLIS - HONEYWELL
Control Systems

A Book on Efficient School Economy

by



George F. Womrath
Asst. Supt. of Schools in charge of Business Affairs
Minneapolis, Minn.

Efficient Business Administration of Public Schools

Economy and efficiency were never so important a part of the school administrator's life as at the present time. And in this volume, he will find discussed in a terse and practical, yet in a comprehensive way, all those facts and data he must be familiar with in order to operate his school plant as efficiently and economically as possible. The book thoroughly covers the entire range of school business administration. It includes the care and maintenance of school buildings, hiring and training of janitors, the purchase and distribution of supplies, the plan and construction of school buildings, the entire problem of financing, accounting, and budgeting, etc. Fully illustrated with charts, tables, schedules, etc.

\$3.75

The Bruce Publishing Company
New York MILWAUKEE Chicago

RETRENCHMENT IN SCHOOL EXPENSE SHOULD BE LIMITED TO SENSIBLE ECONOMIES

One sure form of retrenchment is investment in accessories which, by insuring maximum longevity, result in the minimum cost per annum—cheap materials do not fall within this class.

Door mats constitute a minor item of school expense but are necessary in every school building, both for cleanliness and sanitation and for the prevention of the ruination of expensive floors.

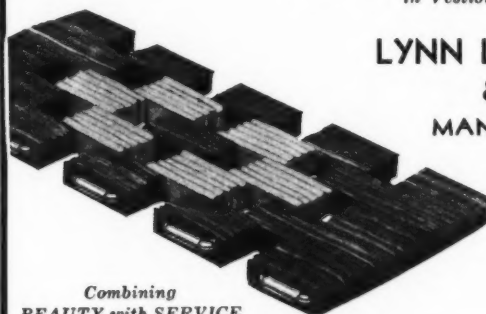
LYNNLINK RUBBER MATS

(IN COLOR DESIGN)

are ideal for school use. Their rugged construction of high quality materials guarantees long life. Designed in permanent color combinations, they add to the attractiveness of any building. Easy to clean and convenient to handle, they make for efficiency while giving the highest degree of service.

Ask your nearest School Supply Dealer for prices on LYNNLINKS or write us for further information.

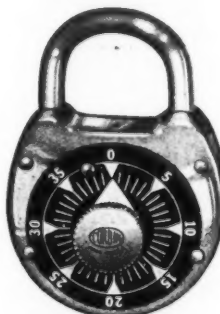
Made Also in Tan Corrugated Leather for Inside Use in Vestibules, Corridors, Etc.



Combining
BEAUTY with SERVICE

**LYNN LEATHER WASHER
& MAT CO.**
MANCHESTER, CONN.

"DIAL"



No. 09919—1½"
No. 09920—2"

"CLICK"

Non-Sight Operation



No. 09949—1½"
No. 09950—2"

All boxes furnished with pigeon holes of various depths. Send for catalogue No. 60.

Manufacturers of letter boxes for 50 years.

CORBIN CABINET LOCK COMPANY
The American Hardware Corporation, Successors
NEW BRITAIN, CONN., U. S. A.

NEW YORK, 96 Lafayette St.
CHICAGO, 319 W. Randolph St.
PHILADELPHIA, 405 Commerce St.



COMBINATION PADLOCKS

Especially Designed For Greater Convenience and Security
Particularly adapted for use on school lockers, gymnasium wire suit baskets, and to meet the requirements of general padlock needs.

Locks Automatically

Automatically locks when shackle is closed, and throws off the combination. *Shackle cannot be locked out when in unlocked position.*

MASTER CHARTS

Furnished with each installation for the proper recording of names, locker numbers, lock numbers and combination numbers.

A SAMPLE LOCK WILL BE SENT TO SCHOOL EXECUTIVES GRATIS UPON REQUEST.

Letter Boxes for Schools—Key and Combination

No. 85 COMBINATION LETTER BOX

Made in 3 sizes

Cast Bronze, regularly finished medium statuary. Dials etched, figures raised on black background. Combinations all different.

No. 1702A KEY LETTER BOX

Cast Bronze, medium statuary finish. Pin tumbler lock. 3 keys with each letter box. Key changes practically unlimited.

Size 5½x6¼ in.

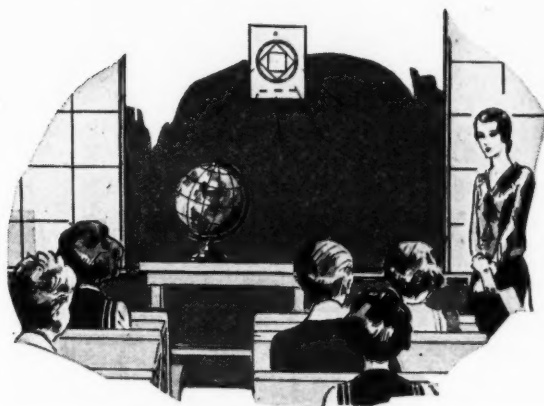


Size 3-2/3x5 inches.

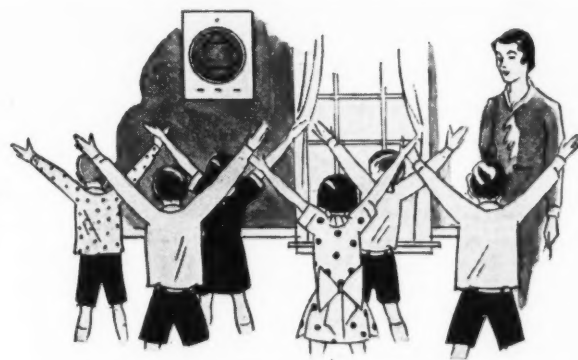
Makes the whole school one room as far as **hearing** is concerned



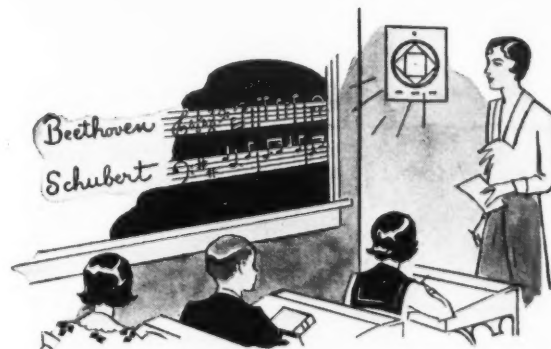
The principal speaks to the whole school at one time—*right from his desk*. In every room simultaneously, pupils and teachers hear his message, receive instructions, carried to them by a Western Electric Program Distribution System.



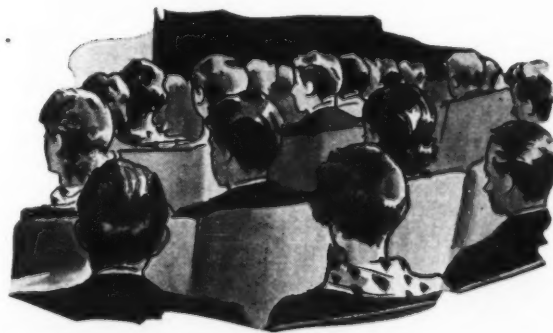
The gym instructor's "1-2-3-4"—with or without musical accompaniment—is delivered in every room. No need to assemble in the gym for calisthenics. Important announcements are delivered instantly. Fire drills are conducted more smoothly.



Music and other recorded programs may be distributed when a Western Electric Reproducer Set is added. Selections are reproduced faithfully, amplified and delivered to as many rooms as desired. A few cents an hour pays for operation.



Even small voices—aided by the Western Electric Public Address System—carry to every part of the auditorium. There is a variety of school uses for this Western Electric equipment—backed by 50 years of Bell Telephone making.



Western Electric

PROGRAM DISTRIBUTION AND PUBLIC ADDRESS SYSTEMS

Distributed by GRAYBAR Electric Company

GRAYBAR ELECTRIC CO.
Graybar Building, New York, N. Y.

ASBJ 3-33

Gentlemen: Please send us illustrated booklet on the Program Distribution and Public Address Systems.

NAME.....

ADDRESS.....

CITY.....

STATE.....

School Architects Directory

BONSACK & PEARCE INC.

WILL MAKE SURVEY OF YOUR NEEDS

 Complete Architectural & Engineering
Services by School Specialists

411 Olive Street St. Louis, Mo.

ROBERT R. GRAHAM

REGISTERED ARCHITECT

 States of New York—New Jersey—Pennsylvania.
Member—N. Y. Chapter American Institute of Archts.
Complete Architectural Service on School Bldgs.

—Consultations—

25 Prospect St. Middletown, N. Y.

WARREN S. HOLMES COMPANY

Architects and Engineers

Appraisals of School and College Buildings

LANSING, MICHIGAN

CLARENCE WILSON BRAZER

REGISTERED ARCHITECT

 Advisor to National Advisory Council on
School Building Problems

 421 Market St. Chester, Pa. 232 Madison Ave.
New York City

GUILBERT & BETELLE

Architects

Chamber of Commerce Building

Newark, New Jersey

WM. B. ITTNER, Inc.

Fellow, American Institute of Architects

 Superior Architectural and
Engineering Service Rendered

 20th Floor, Continental Life Building
3615 Olive St., St. Louis, Mo.

T. H. BUELL & CO.

ARCHITECTS

U. S. National Bank Building DENVER, COLO.

At Your Service!

This directory offers a definite service to the schoolman engaged in the planning of new school buildings or the renovation of old ones.

The architects listed here are experts in the planning and construction of school buildings. Years of experience and careful study have qualified them for the rôle of trusted advisors and consultants. Their service has been thoroughly investigated and the acceptance of their advertising with THE AMERICAN SCHOOL BOARD JOURNAL takes the form of an official stamp of approval on their qualifications as school-building specialists.

When planning a new school building or addition, USE THIS DIRECTORY as your guide in selecting the service of an expert who is thoroughly acquainted with the multiple problems involved in the planning and construction of a modern school plant.

JOS. C. LLEWELLYN CO.

ARCHITECTS and ENGINEERS

38 S. Dearborn St.

Chicago

Ralph C. Llewellyn M. W. S. E. and A. I. A.

JOHN D. CHUBB

ARCHITECT and CONSULTANT

Educational and Public Buildings

 109 North Dearborn Street Chicago, Illinois Marquette,
Michigan

C. Godfrey Poggi

and

William B. Bragdon

ARCHITECTS

Elizabeth,

New Jersey

CARL W. CLARK A. I. A.

State Theatre Building Cortland, N. Y.

Architect

 Consultant and Plan Advisor—Mr. Frank H. Wood,
former Director, Division of School Buildings and
Grounds, New York State Department of Education.
New York Office—Suite 1432-33 W. 42nd St.

STARRETT AND VAN VLECK

ARCHITECTS

Equitable Life Building

393 Seventh Avenue, New York, N. Y.

RAYMOND A. FREEBURG

ARCHITECT

Specialist Educational Buildings

Freeburg Building Jamestown, N. Y.

HACKER & HACKER

ARCHITECTS

SCHOOL SPECIALISTS

 Fort Lee Trust Building, Fort Lee, N. J.
at the Plaza — Hudson River Bridge to New York City.

TOOKER & MARSH

ARCHITECTS

101 Park Ave.

New York City, N. Y.

MARTIN J. GEISE, Architect

 I make a Specialty of Designing School Buildings in
Illinois, Iowa, and Missouri. Over 20 Years Experience.

QUINCY, ILL.

AND

KEOKUK, IOWA

 8th and Main Sts. State Central Saving Bank
Building, 6th and Main

Wm. G. Herbst, A. I. A. E. O. Kuenzli, A. I. A.

HERBST and KUENZLI

ARCHITECTS

Educational and Public Buildings

1249 North Franklin Place Milwaukee, Wis.

CHARLES L. TROUTMAN

Registered Architect and Engineer

School Specialist

410 American Trust Building Evansville, Ind.

Better SAFE than SORRY! FENCE for Protection

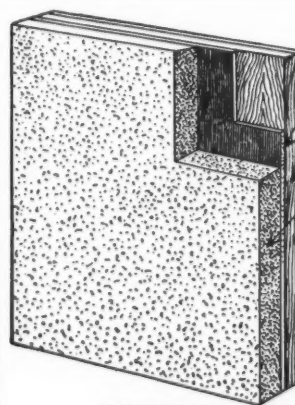


Assure parents that children in YOUR care are as safe as at home. Install a Stewart Iron or Chain Link Wire Fence and be positive that playing children can NOT dart into the paths of speeding automobiles.

Stewart Fences have protected school children for 47 years. Send for a catalog and name of the Stewart Fence engineer in your city.

Stewart IRON and WIRE
FENCES

THE STEWART IRON WORKS CO., INC.
905 Stewart Block CINCINNATI, OHIO



"STANDARD" CORK Bulletin Board

THE BEST BY ANY TEST

Practical for display purposes in halls and over blackboards in schoolrooms. Easily installed in old or new buildings. Cork and Blackboards always on hand.

USEFUL, ATTRACTIVE and PERMANENT

We Manufacture All Sizes. Write for Sample.

STANDARD BLACKBOARD CO.

Cor. Second and Walnut Sts.

ST. LOUIS, MO.



9 Row Type B Stand The Most Popular Outdoor Stand Made.

**There is Nothing That Takes
The Place of Steel for Safety**

And There Has Never Been
An Accident Traceable to A

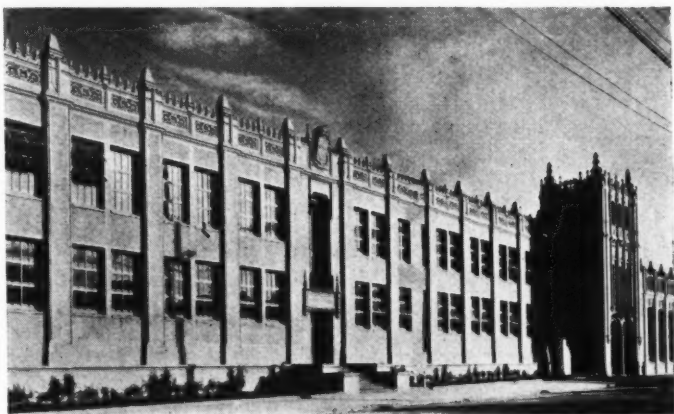
WAYNE STEEL
SECTIONAL GRANDSTAND

The standard Portable Steel Stand
for any size school budget. . . .

Write now for literature.

WAYNE IRON WORKS

Largest Manufacturers of Portable Steel Stands
Wayne, Penna.



Alamo School, San Francisco, Calif. Architects, Miller & Pfueger,
San Francisco. Insulated throughout with Cabot's Quilt.

Why It Pays to Insulate Schools with "Quilt"

- | | |
|----------------------------------|--------------------------------------|
| § Low in First Cost. | § Vermin-proof, fire-resistant. |
| § Quickly and cheaply installed. | § Everlasting insulating power, will |
| § Insures year-round protection | not pack down, disintegrate or rot. |
| against cold, heat and noise in | § Cuts heating plant size and cost. |
| music rooms, etc. | § Saves substantially in fuel bills. |

Cabot's Quilt

Heat-Insulating Sound-Deadening

Samuel Cabot
Inc.

141 MILK STREET, BOSTON, MASS.

Gentlemen: Please send me your Quilt Book and your Laboratory Bulletin
No. 5.

Name

Address ASB-3-33



The Holophane Corridor Unit produces uniform illumination of four to five foot-candles in the P. L. Dunbar Public School, Philadelphia, at a lower operating cost than is possible with any other lighting system.

BARGAINS in Lighting

Every foot-candle of illumination is a bargain when produced by Holophane Planned Lighting—for Holophane units always

- (1) Provide a *greater* amount of useful light from a *given* investment in current and Mazda lamps than any other lighting system, or
- (2) Provide the *same* amount of useful light at a *lower* operating cost.

It will pay you, in actual dollars and cents, to install Holophane, the scientific lighting system, in corridors, classrooms, laboratories, auditoriums, gymnasiums — and everywhere else throughout the school building. Holophane engineers will gladly assist your own architect or electrician to give you the advantage of these bargains in lighting.

Holophane Company, Inc.

342 Madison Avenue, New York

San Francisco

Factory, Newark, Ohio

Toronto



H O L O P H A N E
PLANNED LIGHTING

produces the greatest amount of useful light

FIGHT BACK!

for grinding up money." It is high time that resentment should cease to be concealed and the friends of education should "Fight Back."

These critics ignore the facts that ¶ There never was inflation in the schools. ¶ That school systems have already made reductions even beyond what the situations justified. ¶ That the educational program to date has suffered more in this country than in most foreign countries. ¶ That better educated citizens (other than educators) have demanded better advantages for their children. ¶ That those parents who did not have educational privileges themselves have been demanding these privileges for their children. ¶ That there is as much difference between education of twenty years ago and education of today as there is between the wagon of twenty years ago and the powerful truck of today. ¶ That price and quality are still relative terms. If you want a good article whether in clothing, equipment or education, you have to pay a fair price for it. There are lots of cheap goods on the market. Who wants them? ¶ That our past economic conditions necessitated bringing education to the community of the school children instead of taking the children away from their homes to the city centers. Had this wise policy not been followed, we would now have the unemployment problem very much aggravated.

There is another group of people who are ready to "Fight Back" at the harping criticisms and continual hammering at a greatly reduced school budget.

These people recognize ¶ That they have lost much, suffered much in the past few years, but they will not permit their children to suffer educational privations. ¶ That they have awaited the obstructionist to submit a constructive remedy for education only to find further obstructions. ¶ That the critics have had their fling and would have left chaos and ruin in their trail had it not been for wise and prudent school management: that this situation can go on no longer. ¶ That the friends of education must control—that the schools must be apart from political interference. ¶ That they should no longer tolerate abuses that have nigh wrecked the educational program—a program that gave every youth a chance in his own right. His possessions may be gone from him ten years hence, but his training, never. ¶ That in comparative costs of schools on the property tax bill, no record is made of the amount of taxes unconsciously paid to other governmental agencies by the individuals through gasoline tax, license plates, etc. ¶ That there must be adequate revenues to safeguard the schools. Treasury offerings are over-subscribed many times. There are sufficient sources of revenue if the schools would be allotted their share. Legislation is now doing that very thing. In the month of January there were ninety Revenue Bills affecting schools introduced in twenty states. Legislatures are aroused, thanks to the group who are now asserting themselves in the interests of the schools. ¶ That their interests must be recognized and their voices heard by school officials, to the end that adequate budgets will be provided for 1934. ¶ To that end educators and school officials must also stand ready to "Fight Back."



National School Supply Association

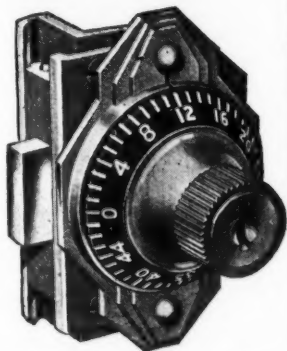
176 W. Adams Street

Chicago, Illinois

Simplified Supervision

and

greater security for School Lockers



YALE Combination Locker Lock No. L3374—Master-Keyed.

TRADE **YALE** MARK

COMBINATION LOCKER LOCKS

THIS fine Yale Lock does away with the lost key nuisance and gives greater convenience, simplicity and security to the operation of extensive locker systems.

It is both strong and attractive . . . made of heavy die-cast metal, with either satin cadmium or chromium finish dial escutcheon. Designed for use on all steel lockers and steel locker doors having automatic bolt release.

The combination can be changed without removing the lock from the door.

NOTE: YALE Combination Locker Lock (No. L3374) furnished with master key on special order only.

Write for estimates.

THE YALE & TOWNE MFG. CO.
STAMFORD, CONN., U. S. A.

EXHIBITOR

A Century of Progress,
International
Exposition,
Chicago,
1933

Be sure to see the Hild
Exhibit in the Hall of
Science.



*Cut
floor
maintenance
costs*

The new "Hushed" Hild Electrically Operated Floor Machine. Scrubs . . . waxes . . . polishes. Easy to operate. Efficient . . . because the entire weight is on the brush. Special motor banishes noise almost completely.

5-Day Free Trial

A complete line of floor treatments, prepared waxes, floor seals, soaps, cleansers, bleaches, varnish removers, etc. . . . guaranteed to do the job more economically and give you a brighter, cleaner floor.

Prices and Samples on Request

**HILD FLOOR
MACHINE CO.**
108 W. Lake Street
Chicago
Branches in Principal Cities



HILD
Guaranteed
PRODUCTS



300 pupils
12¢ = cost per pupil per hour
20 minutes = time lost holding one
ten minute assembly
 $\frac{.002}{.12} = \text{cost per minute}$
 $\frac{.002}{.12} \times 20 = \text{cost for 20 minutes}$
 $\frac{.004}{300} = \text{value of time lost}$

Another International Way to SAVE SCHOOL DOLLARS

School operating dollars go farther with International Central Control Radio, Music and Speech Equipment.

Consider, for instance, the time taken for "assemblies." A ten-minute program requires half an hour, twenty minutes of which is wasted in moving pupils to and from the auditorium . . . twenty minutes that should be devoted to instruction.

International Radio Equipment eliminates such dissipation of school funds and at the same time brings faculty and student body into closer and more frequent contact.

With this equipment every schoolroom becomes center of the world . . . Current news events, history in the making, and schools of the air, all supplement and increase the effectiveness of every instructor's efforts.



A typical control panel for an International Central Control Radio, Music and Speech System. For complete description write the general offices for special literature S B7.

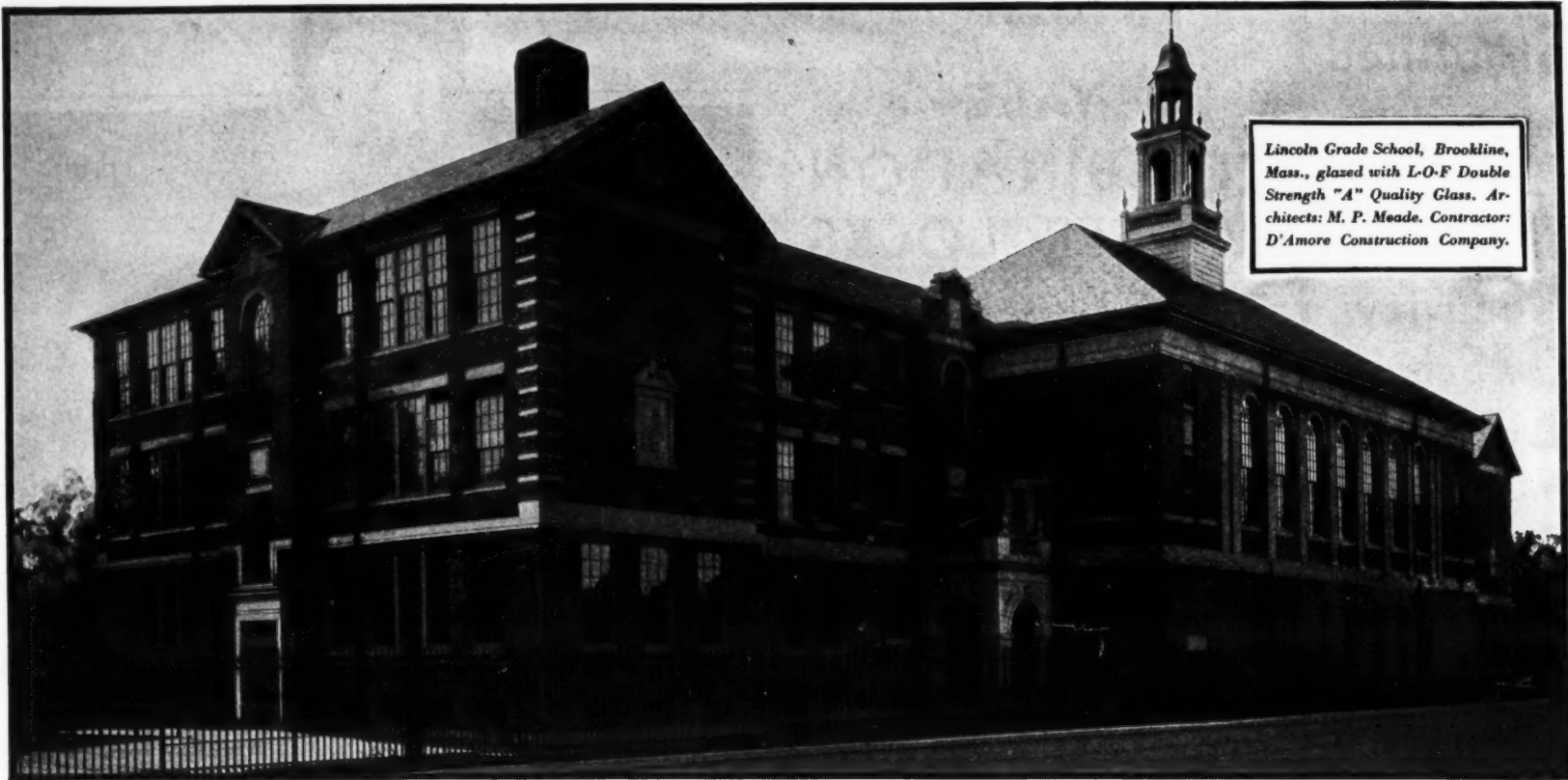
INTERNATIONAL TIME RECORDING CO. DIVISION International Business Machines Corporation

International Time Recorders and Electric Time Systems—International Electric Tabulating and Accounting Machines—International Industrial Scales—Dayton Money Weight Scales and Store Equipment

GENERAL OFFICES
270 Broadway,
NEW YORK, N. Y.



Branch Offices and Service
Stations in all Principal
Cities of the World

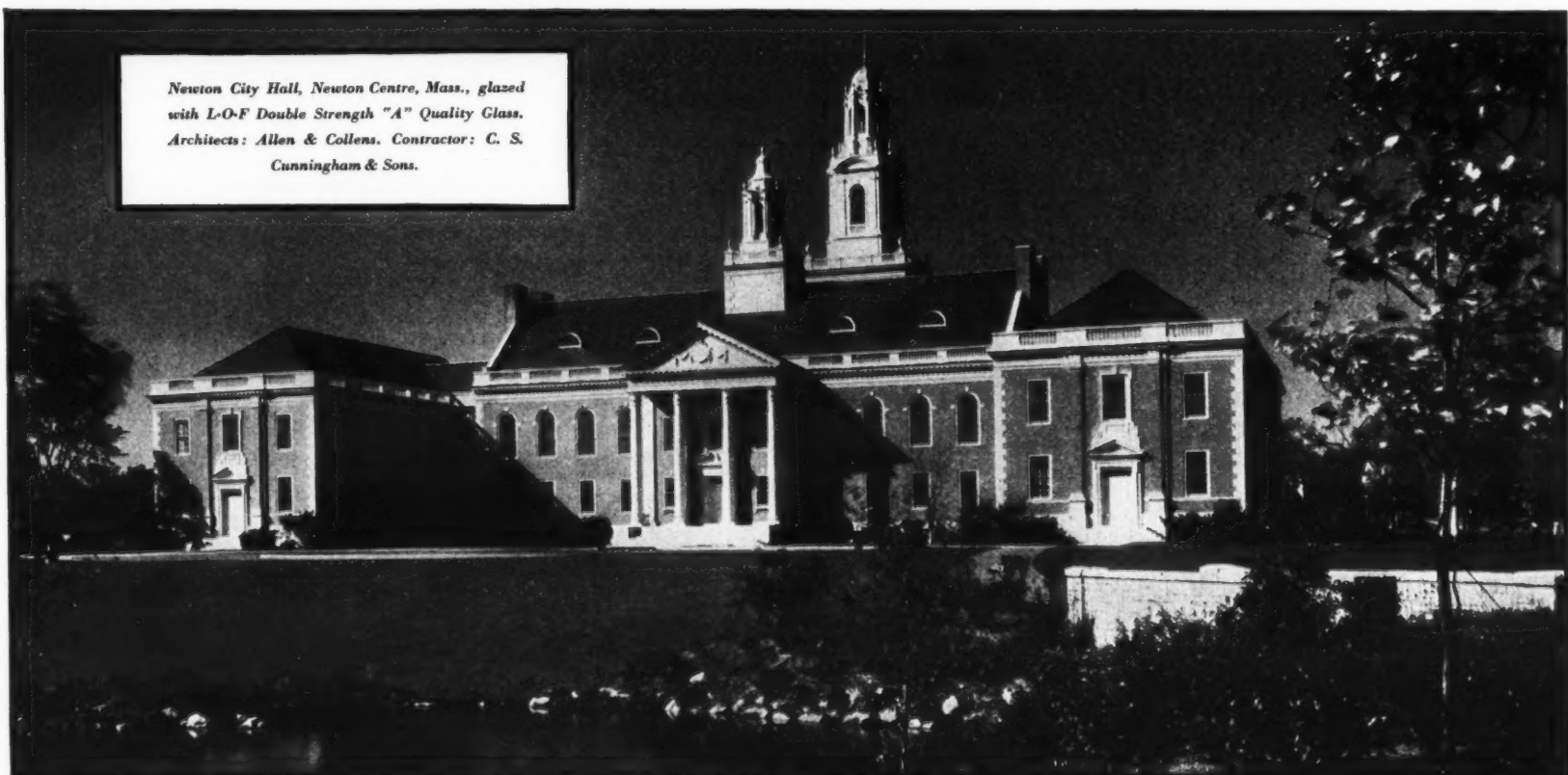


Lincoln Grade School, Brookline, Mass., glazed with L-O-F Double Strength "A" Quality Glass. Architects: M. P. Meade. Contractor: D'Amore Construction Company.

IT IS CHEAPER TO USE LIBBEY·OWENS·FORD QUALITY GLASS

Because this fine glass is less liable to break when cutting to size or glazing.

There are many splendid arguments which support the contention that Libbey·Owens·Ford Quality Glass is ideal for use in school and other public buildings. Its superior beauty is one. Its greater clearness is another. Lasting brilliance . . . fire finish . . . uniform quality . . . there are scores more. But today, when the expenditure of public funds must be watched so carefully, the most convincing argument of all is that L·O·F Quality Glass is actually *less expensive*. The thorough annealing it receives in the longest lehrs used in the glass industry makes it less brittle and, therefore, *easier to cut*. There is, consequently, less breakage . . . and costs for glazing or reglazing are *held at a minimum* when L-O-F Quality Glass is specified. Ask your architect.



Newton City Hall, Newton Centre, Mass., glazed with L-O-F Double Strength "A" Quality Glass. Architects: Allen & Collens. Contractor: C. S. Cunningham & Sons.



LIBBEY·OWENS·FORD GLASS CO.,
TOLEDO, OHIO, manufacturers of Highest
Quality Flat Drawn Window Glass, Pol-
ished Plate Glass and Safety Glass; also
distributors of Figured and Wire Glass manufactured
by the Blue Ridge Glass Corp. of Kingsport, Tenn.

LIBBEY·OWENS·FORD QUALITY GLASS

VOL. 86
NO. 3

THE AMERICAN School Board Journal

MARCH,
1933

Eastern Office:
40 EAST 34TH STREET
NEW YORK, N. Y.

A Periodical of School Administration

Published on the first day of the month by
THE BRUCE PUBLISHING COMPANY
524-544 No. Milwaukee Street, Milwaukee, Wis.

Western Office:
66 E. SOUTH WATER STREET
CHICAGO, ILL.

TABLE OF CONTENTS

Cover: Entrance Details, Steele Grade School, Denver, Colorado <i>M. H. and B. Hoyt, Architects</i>	
Cartoon: To Make the School Strike Unpopular, the School Authority Must Strike Back!....	15
<i>Harold Heaton</i>	
The Research Point of View in Education.....	16
<i>A. C. Lambert</i>	
What Business Training May the School Board Expect in the Superintendent?.....	17
<i>Ward G. Reeder</i>	
Reducing and Handling Student Failures.....	18
<i>C. A. Pugsley</i>	
Growth of the Roanoke City Schools Under Dwight E. McQuilkin.....	20
Some Economic Principles Basic to School Finance.....	21
<i>William G. Carr</i>	
Making High-School Graduation Significant.....	23
<i>Lyle W. Ashby</i>	
School-Board Heads Who Are Making History in American Education.....	24
The Law and School Property.....	26
<i>Daniel R. Hodgdon</i>	
The Superintendent and Creative Supervision.....	27
<i>Worth McClure</i>	
The Format and Content of School Budgets.....	28
<i>C. A. De Young</i>	
The School-Life Expectancy of Failures in the Elementary Grades.....	29
<i>David T. Blose and David Segel</i>	
Teacher Tenure in New Jersey.....	30
The Control of School-Building Depreciation.....	31
<i>W. Fred Dolke, Jr.</i>	
Standards for Junior-High-School Buildings—Part II.....	32
<i>T. C. Holy and W. E. Arnold</i>	
A New School-Administration-Unit System.....	32
Senior High School, Marysville, Ohio.....	33
A Successful Depression School-Building Project.....	35
<i>C. A. Weber</i>	
The Amos Steck School, Denver, Colorado.....	38
And Then School Boards Will Approve of "Or Equally Approved".....	39
<i>Alexander C. Guth</i>	
Meeting Present Wants and Planning for Future Needs.....	40
The Selection and Management of School Equipment and Supplies.....	41
<i>R. W. Hibbert</i>	
Ohio's School-Finance Survey.....	44
Answering the Question: What Floor Treatments Are Best for Our Floors?.....	44
<i>James Haworth Longshore</i>	
A Check List for Senior-High-School Buildings.....	54
<i>Thoms J. Higgins</i>	
EDITORIALS:	
Pending School Legislation.....	42
Improving Uniform School Accounting.....	42
Shall the Public School Encourage Donations?.....	43
The Public Schools and Private Business Enterprise.....	43
Prison-Made School Furniture and Supplies.....	43
School Law.....	46
School Finance and Taxation.....	48
Book News.....	51
School-Board News.....	56
Personal News of School Officials.....	58
After the Meeting.....	66
Buyers' News.....	66

A Remarkable Contribution

A BIBLIOGRAPHY on educational finance has just been issued by the United States Department of the Interior, under the direction of the Office of Education. It lists over 1,600 magazine articles, official reports, pamphlets, and books bearing directly on the subject in hand.

The compilation covers every phase of school finance and notes, on the whole a remarkable contribution to the fund of school-administrative literature.

This class of literature was, until the advent of the AMERICAN SCHOOL BOARD JOURNAL in 1891, quite fragmentary and meager. Since then eminent educators and financiers have turned their attention to the subject of school support, sources of revenue, equalization in state support, budget, building, and allied interests.

The result has been a treasure house of information, which represents definite inquiry on an important phase in the administration of the American schools. Here it develops that the bibliography on school finance includes 425 articles published in the AMERICAN SCHOOL BOARD JOURNAL. They deal with cost accounting, building projects, contracts, fiscal control, insurance, property management, maintenance, salary schedules, state aid, taxation, teacher training, transportation, etc. In fact, every administrative act involving the question of money is comprehensively dealt with.

On the whole, it may be claimed, and we do this modestly, that no publication has made a larger and more vital contribution in the direction of an efficient financial control of the nation's schools than has the AMERICAN SCHOOL BOARD JOURNAL. That contribution constitutes a remarkable achievement in American school life.

THE EDITOR

Copyright, 1933, by the Bruce Publishing Company. All rights reserved. Title registered as Trade Mark in the United States Patent Office. Entered as Second Class Mail Matter in the Post Office at Milwaukee under Act of Congress of March 3, 1879.

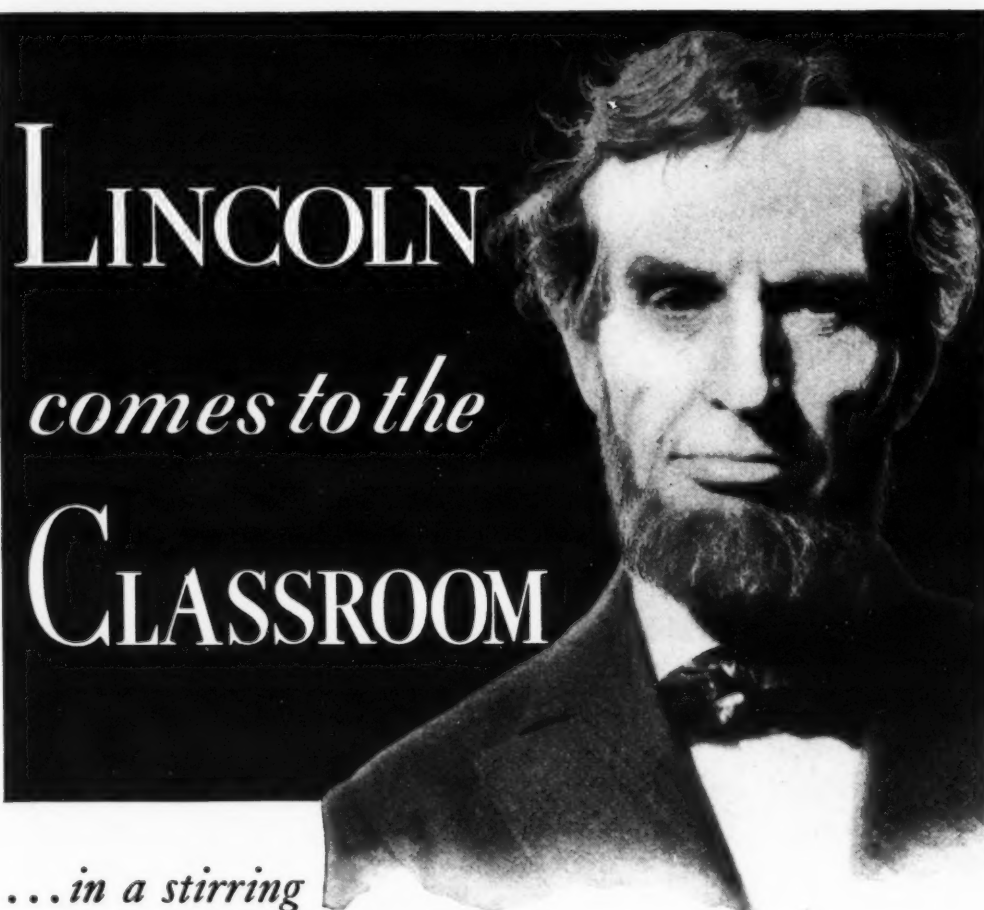
Subscriptions—In the United States and possessions, \$3.00 per year. In Canada, \$3.50. In foreign countries, \$4.00. Single copies, not more than three months old, 35 cents; more than three months old, 50 cents. Sample copies, 35 cents.

Discontinuance—Notice of discontinuance of subscriptions must reach the Publication Office in Milwaukee, at least fifteen days before date of expiration. Notice of changes of address should

invariably include the old as well as the new address. Complaints of nonreceipt of subscribers' copies cannot be honored unless made within fifteen days after date of issue.

Editorial Material—Manuscripts and photographs bearing on school administration, superintendence, school architecture, and related topics are solicited, and will be paid for upon publication. Contributions should be mailed to Milwaukee direct, and should be accompanied by stamps for return, if unavailable. Open letters to the editor must in all cases contain the name and address of the writer, not necessarily for publication but as evidence of good faith.

The contents of this issue are listed in the *Education Index*. Member, Audit Bureau of Circulation and Associated Business Papers.



LINCOLN comes to the CLASSROOM

*...in a stirring
2-reel motion picture prepared
especially for the school children of America*

ANOTHER great historical motion picture by Eastman Teaching Films, Inc., gives living meaning to a great American personality.

The title role of this new release, *now ready for delivery*, is played by George Billings—undoubtedly the most outstanding impersonator of Lincoln. Endowed with a striking likeness to the great president, and fortified by exhaustive study of his life and character, Mr. Billings not merely *acts* the part of Lincoln—he *is* Lincoln.

The picture is completely authentic from beginning to end. Seeing it, pu-

Inexpensive Kodascopes, for projecting Abraham Lincoln and other Eastman Classroom Films, can be obtained from dealers everywhere. Screen costs are nominal.



pils will re-live Lincoln's life as a vivid, first-hand experience. Not only will it supplement other teaching material for the classroom study of the Great Emancipator's life and times, but it will also serve to inspire character and patriotism in the heart of every child, from the lowest grade to the highest.

The Eastman Classroom Film, *Abraham Lincoln*, consists of two reels. Their total running time is about 30 minutes, so that they can be shown in the usual class period. Prices (delivered): 16-millimeter, \$70 complete; 35-millimeter, \$150 complete. Not available on the rental plan. For prompt delivery, send your order *now*. Eastman Teaching Films, Inc. (Subsidiary of Eastman Kodak Company), Rochester, New York.



Young Lincoln's stepmother shows interest in his "sums"



The future president as clerk in Offut's store



"Honest Abe" meets Douglas in fateful debate



Battle scene in the war between the states



"Fourscore and seven years ago"...the immortal address



Lee surrenders to Grant at Appomattox

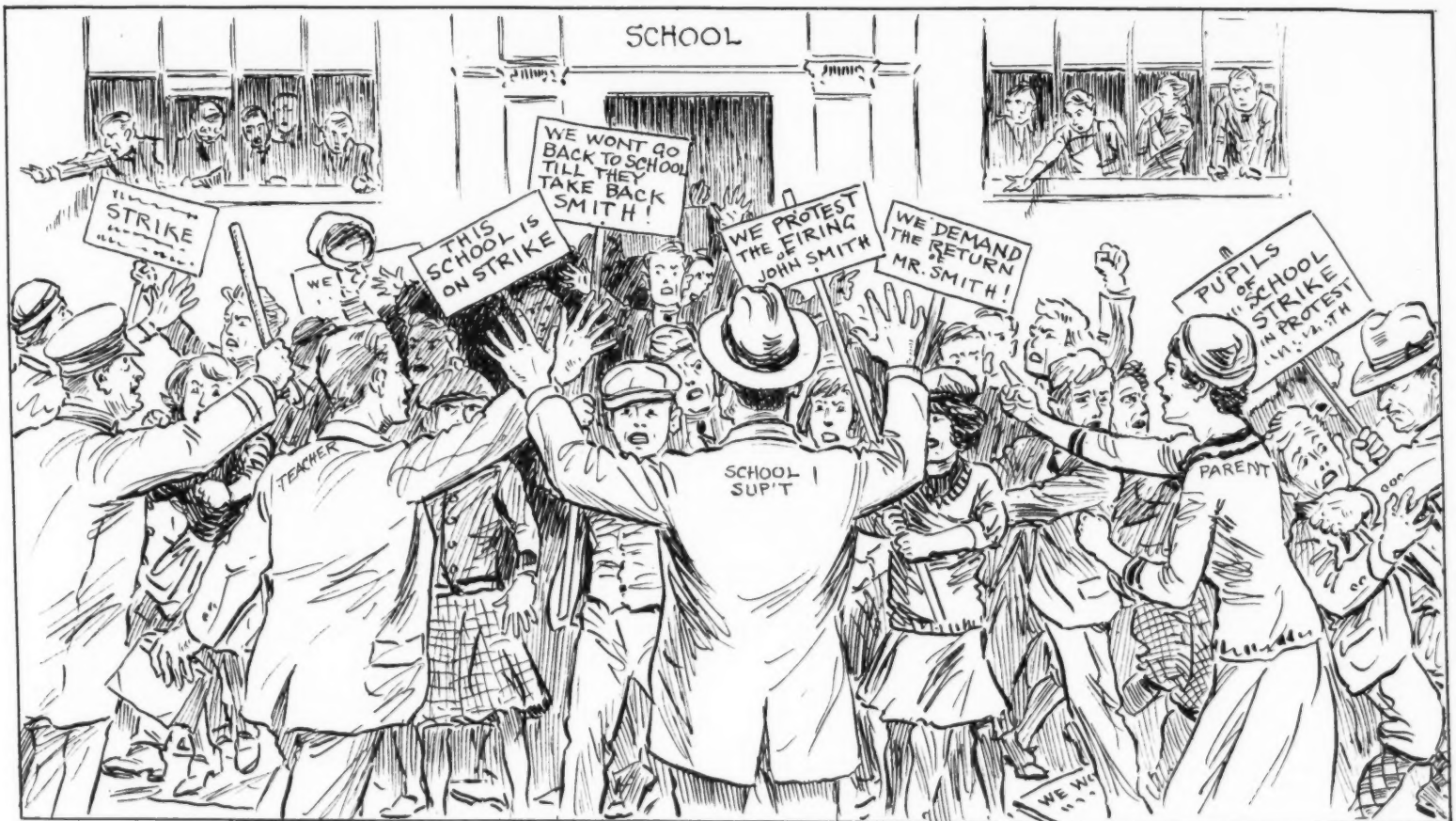
EASTMAN Classroom FILMS

THE AMERICAN School Board Journal

Volume 86, No. 3

MARCH, 1933

Subscription, \$3.00 the Year



TO MAKE THE SCHOOL STRIKE UNPOPULAR, THE SCHOOL AUTHORITY MUST STRIKE BACK!

The Research Point of View in Education

Professor A. C. Lambert, Provo, Utah

Research has been, and must continue to be, a most important part of education. Under the prevailing demands for retrenchment in school programs there is danger of neglecting this specialized but important function. School administrators with power to formulate school policies and to execute them possess also the power to neglect or to promote research in the schools. Their responsibility, however, is clear. Sound research has been the basic method of creating such sciences as biology, physics, and chemistry. It is the means by which such social sciences as economics, government, public finance, sociology, and education are being developed.

As with the word *science*, the word *research* has been popularized. The average person who is old enough to observe and to draw conclusions decides in one way or another that science does much for his welfare and comfort. The telephone carries his messages, the radio brings him immediate news of world events, the gasoline engine transports him everywhere, the electric current lights his house, medical serums protect him from diphtheria and save his child from meningitis. All this magic is understood to be the result of science and research, and it is easy to conclude that, when important things are done, science, and research must be applied or that, if precise results are to be secured in any activity, the approach and procedure must be made scientific. And so we tend not only to discuss in this popular way the science of engineering, the science of physics, the science of medicine, but the science of accounting, etc. An individual who exhibits marked competence in any line of activity is said to have reduced his accomplishment to a science.

In a manner similarly popular and similarly erroneous, great activity on the part of an individual who gathers information about some subject, or who ponders at length some question, is regarded as research. Properly understood, however, research has a more specific meaning than these popular misuses of the term imply. Clear understanding of the term itself is a prerequisite to good research.

Healthful differences of opinion exist among certain groups of workers in education concerning some of the more precise meanings of research, but these questions are irrelevant here. Only the more obvious misapprehensions of research need to be indicated.

In a negative sense, it may be said that research is not simply being busy in an attempt to find out something, though research involves hard work. Pains-taking, conscientious tabulations of data over long periods of time and publication of them by so-called bureaus of statistics and research in industrial organizations and in school systems is not necessarily research. Exhaustive compilations of what others have said or written on a subject do not qualify as research. Prolonged reflection upon a topic by the philosophically minded person is not research. Collection of facts, either pseudo or real, to support a position previously assumed as true is not research. Neither is an attempt to develop a body of theory or doctrine or values without the most scrupulous consideration of all the facts involved research. But if these things are not research, what is?

What is Research?

In a positive sense, research is a most earnest and unprejudiced attempt to derive truth by methods used and accepted for a long time as

reputable by the best scientists. Research is an unusually rigorous attempt to derive truth and to protect oneself against error while so searching. It is "an inquiry directed to the discovery of truth, to the investigation of the facts and the principles of a subject" by workers trained in scientific method. These workers base their efforts upon original and first-hand study of primary sources or upon experiment.

Research, as defined in this manner, involves not only adequate collection of data from first-hand sources by methods that require accurate and recorded observations tested at every step for validity and reliability, then classified, analyzed, and verified, but it involves the further difficult and important steps by which the principles or generalizations or truths are derived from the data. These generalizations, when derived and tested, give meaning to the facts. They state that tendency, that sequence, that uniformity, that relationship, that principle, or that law which is the truth of the matter.

Such tested generalizations may be used for purposes of predicting what will happen again under like circumstances. True research arrives by this final process of tested and orderly generalization to those principles and laws which may be used for prediction and control. Short of this final result, the collection of facts no matter how arduously pursued nor how impressively presented and authoritatively disseminated, has insofar failed to be research. True research must evolve truth; it must result in a positive contribution to scientific knowledge. Pure science is built in this manner. The benefits of applied science now widely enjoyed are likewise based upon this fundamental concept and method of research.

Application of Research to Education

To take one example from the field of education, we may indicate the remarkable proficiency attained by teachers in recent years in their methods of teaching children to read and in correcting reading defects. The improvement has been made possible through application of the principles and the laws of human learning derived through the years by many research workers and through the possession and application of the principles of human eye movements that were discovered and formulated by elaborate research.

But who can do this type of necessary research in the many fields of education? Chiefly the interested and trained workers, working not only as individuals but for institutions and research foundations, will do this work. Such workers have not always been, and may not always be, those who possess higher degrees, but they will be trained for the work. It must

be said in this connection because of the challenge which it should carry that, although the Ph.D. degree has stood and still stands for research ability on the part of the holder, the tragic comment to be made in the matter is that in so many cases the only piece of research which stands to the credit of the Ph.D. man in education is his doctoral dissertation. Most research workers will possess naturally advanced degrees, but whether members of the great Ph.D. fraternity or not, the trained persons will continue to do the most significant research in education.

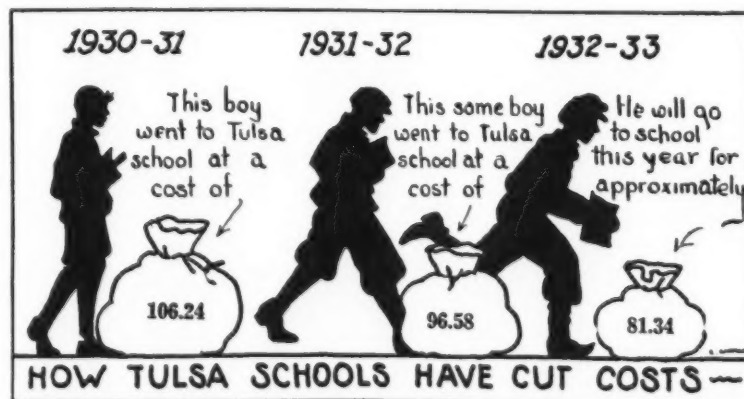
How the Teacher Applies Principles of Research

But research workers are not the only persons who should be interested in research. Certainly the teacher in daily and hourly contact with the educative process itself should have an interest not only in applying masterfully the principles and the laws of human learning, but should have an understanding of the methods by which these laws are derived and tested. This teacher is equally interested in determining whether or not what she teaches becomes useful in the lives of her pupils. It seems to be true at the present time that the average classroom teacher is poorly trained to do research even on a small scale, or to read and interpret well the published results of research. But this condition need not exist, particularly among the holders of the baccalaureate degree, if normal schools, colleges, and universities see and discharge their responsibility for the improved training of these teachers. Progress in education is dependent in part upon an enlarged research attitude and research sympathy on the part of the classroom teacher.

The Expenditure of Money for Research

All administrative officers, principals, supervisors, and superintendents are anxious that schools be conducted according to sound principles derived from dependable research. Parents are anxious that the lives of their children shall be shaped in the schools by practices that are rooted in verifiable knowledge and not by educational theories, doctrines, or movements, however modern, that have only a superficial base in pseudoscience and pseudoresearch. The taxpayer who hopes that his money expended for schools will contribute to an improved civilization is anxious that the best results be secured with the least outlay of money. Constant and careful research is necessary to tell how well this is being done. All these groups of people, though not actively engaged in research, have a vital interest in seeing that research is done, that it is done well, and that its results are made useful.

In times like the present shall money be expended for such a specialized activity as research? Ample evidence can be adduced to show that continued research is necessary, both as a matter of public policy and as a means of immediate practical economy. American civilization and American schools are committed to the never-finished but ever-continuing pursuit of truth, and research is the chief means by which this truth is found. And in these of all times research will be needed to tell us more precisely than does opinion where wastes occur and where savings may be made. Pursuance of research in education in times of economic stress is thoroughly sound as a national, a state, and a district policy.



THE TULSA BOARD OF EDUCATION HAS SUCCESSFULLY INFORMED THE COMMUNITY ON THE LOWERED COST OF EDUCATION BY MEANS OF CARTOONS, LIKE THE ABOVE, WHICH APPEARS IN SUPT. PRUNTY'S WEEKLY BULLETIN

What *Business Training* May the School Board Expect in the Superintendent?

Ward G. Reeder, *Ohio State University*

The qualifications of the person in charge of an organization largely determine the efficiency of the organization. Such matters as the form of organization and the quality of buildings and equipment, though never to be neglected, are of secondary importance compared to personnel. The great movements in education—movements which give luster to the pages of educational history—owe their inception and their consummation largely to the vision and the labor of great leaders. That an institution is the lengthened shadow of an individual has been often said. Witness what Horace Mann accomplished for education in Massachusetts, Henry Barnard first in Connecticut and later in Rhode Island, John D. Pierce in Michigan, Caleb Mills in Indiana, Calvin E. Stowe in Ohio, John W. Swett in California, William T. Harris in St. Louis, J. M. Greenwood in Kansas City, and William H. Maxwell in New York City. "As is priest so is parish," is an ancient Russian proverb. This truism may be paraphrased and applied to the superintendent of schools. As is the superintendent, so is the school system. The efficiency of a school system cannot rise higher than the efficiency of the persons who administer the system.

Importance of Education

When the size, the complexity, and the importance of education are considered, and when it is remembered that the superintendent largely determines the efficiency of the school system, the importance of the position of school superintendent is more fully realized. To say anything about the importance of education would be trite. It will suffice to remind ourselves that, from the beginning of our nation, education has been regarded as the bulwark of a democratic government and as an open sesame through which the individual can best realize his potentialities.

Regarding the size of education, it must be described as gigantic. In the typical community more money is spent on education, more people are engaged in it, and more people are affected directly or indirectly by it, than is true of any other public business. By the large, almost one half of all the tax money goes for the support of schools and approximately one fourth of the people devote the major portion of their waking hours to schoolwork, either as pupils or as employees. In the typical school system, approximately 50 per cent of the revenue is spent for salaries of teachers, principals, supervisors, and superintendents. The remainder is spent for items which are usually classified as business items. Included in them are such expenses as those for fixed charges, capital outlay, the maintenance and operation of the school plant, educational supplies, and auxiliary agencies.

Because of its size and its technical nature, the administration of education presents myriad opportunities for financial waste and pedagogical inefficiency. It is the function of the superintendent to administer the schools in such a manner that waste and inefficiency will be eliminated. By eliminating waste here and there an efficient superintendent, even in a small school system, can easily save his salary; often he can save it severalfold. Following are a few sample wastes which enterprising superintendents that I have known have eliminated:

Some Examples of Economy

1. By organizing coöperative purchasing for the rural-school districts of his county, Superintendent M was able to purchase supplies in larger quantities, and thus, was able to effect an economy, compared with former years, of more than \$5,000 annually.

2. Superintendent E of a small school system was able to save \$3,500 annually in the fuel bill of his school system, by taking such steps as checking the efficiency of the boilers, covering heating pipes with asbestos, repairing broken window glass through which heat had been permitted to escape, placing weather strips on windows and doors, and purchasing the proper kind of fuel for the boilers.

3. In his school system Superintendent T instituted the practice of taking advantage of all discounts, which are usually given by dealers for the payment of supplies and equipment within a few days or a few weeks. By this plan he was able to save his school system \$1,200 annually.

4. By making a study of the per-pupil cost by school buildings of such items as fuel, janitors' supplies, electric current, water, and educational supplies, Superintendent C was able to show the employees of the several buildings how they ranked on per-pupil costs for these items. As a result, the employees became wholesomely critical of their costs and eliminated many wastes.

5. Superintendent W found that standardizing the amount of supplies to be allotted each semester to pupils and employees eliminated much waste and saved his school system several hundred dollars annually.

6. Superintendent B rerouted the school busses of his county, with the result that he was able to eliminate two busses and drivers, and effected an economy of \$2,200 annually.

Valuable Building Economies

7. Upon the recommendation of its superintendent, school system A employed a salaried architect, with the result that it now secures its architectural services at a cost of 3.5 per cent, as compared with the former cost of 6 per cent. Over a period of eight years, this school system has effected a total saving of approximately \$75,000 by the salaried-architect plan.

8. With the coöperation of his principals, Superintendent K made a study of the extent to which the classrooms and buildings were being used. In spite of the fact that there had been talk of a schoolhousing shortage in the city, it was found that the school buildings on the average, were being used to only 68 per cent of capacity. By more efficient program making, this superintendent and his principals were able to care for 1,600 more pupils. In that school system 50 additional classrooms would have been necessary to care for 1,600 pupils. Since the typical classroom in that city cost \$12,000, this superintendent was responsible for the saving of \$600,000.

9. By a careful checking of preliminary plans and specifications for a large high-school building for his school system, Superintendent J was able to point out economies amounting to \$70,000.

10. Superintendent S standardized the pupil-teacher ratio and teaching load in his school system so that he was able to operate the schools

with 30 fewer teachers, with a saving of \$45,000 each year.

The Business Training of the Superintendent

Scores of other examples of economies might be cited. If the schools are to function to their highest degree of efficiency, 100 cents' value must be secured from every dollar expended. This requires that the chief executive of the schools, the superintendent, must have a considerable knowledge of the business phases of school administration. In small school systems, he must know how to perform in person both the business and educational functions; in those systems, not only must he be a "Jack-of-all-trades" in school administration but also as far as possible a master of all of them. In the larger systems the school superintendent must have a considerable knowledge of the business administration of schools, otherwise he will not be so competent to select the chief business executive and to direct and supervise his work. Whether the school system is large or small the superintendent is the generalissimo of its forces.

Heretofore the business side of the superintendent's training has been greatly neglected. Small wonder then, that school-board members regard superintendents as experts in instructional matters, but frequently look upon them as incompetents in business matters! Small wonder in consequence that these boards have delegated to the superintendents the running of the instructional side of the administration, and have reserved to themselves the running of the business side, or have delegated it to business managers whom they have often made coöperate with the superintendent of schools! These undesirable practices may be expected to become less common when superintendents are more competently trained to perform, direct, or supervise school-business affairs.

Superintendents are not altogether to blame for their lack of training in business affairs, for where could they go for such training? Until recently, courses in colleges and universities calculated to give a knowledge of the conduct of school business were almost as scarce as dodos; moreover, the traditional introductory course in school administration gave little or no attention to business matters. Fortunately though, these institutions are beginning to establish such courses. A few colleges and universities, for example, are offering courses in finance, school-business administration, buildings, equipment, financial accounting, and budgeting.

Some Business Duties of Superintendents

Some of the more important problems of school-business administration for which the superintendent must be personally responsible, or which he must supervise, and on which he needs training are: (1) the preparation, presentation, and administration of the school budget; (2) seeing that all revenues to which the schools are entitled come into the school coffers and ascertaining new or additional sources of revenue; (3) the mounting school costs and the explanations of them; (4) the ability of the people to support schools, the reasons why they should support them, and how to secure this support; (5) the hundreds of opportunities for waste, and the necessity for avoiding such waste; (6) the purposes, and standard methods, of financial accounting; this would include training in the making of unit-cost studies, the preparation of monthly and annual financial statements, and the making of balance sheets; (7) the planning, constructing, and financing of school buildings; this would in-

clude training in determining the building needs, securing architectural services, making a schedule of rooms, selecting a site, preparing and approving plans and specifications, securing bids and letting contracts, estimating the cost of the building, methods of financing and bond issues, and supervising and inspecting construction; (8) the equipping of school buildings; (9) the capacity use of school buildings and the community use of them; (10) the maintenance of the school plant, and the figuring and retarding of depreciation; (11) the school janitor and his work; (12) the insurance of school property, and the safeguarding of school property and life in case of fire; (13) the taking of inventories; (14) the handling of school supplies and textbooks; (15) safeguarding pupil-teacher ratios, making teachers' salary schedules, and providing pay for disabled employees; (16) payroll procedure for the several types of employees; (17) pupil transportation particularly in rural schools; (18) the relative merits of fiscal dependence and fiscal independence; and (19) the relative merits of the unit and multiple types of administrative relationships.

How Superintendents May Become Competent in Business

Through what means may the superintendent of schools become competent to deal with the problems just mentioned? In brief, it may be said that, while he is a student in preparation for the superintendency, he should secure specific training for handling the school's business affairs. Permitting or requiring him to secure this training through the "school of hard knocks" cannot be condoned; such practice

wastes his time, and what is more to be deplored, it wastes public money and robs the child of his educational patrimony. This does not mean that his educational training should receive less attention, but that his business training should be given larger emphasis. If this requires that more time be spent in college or university, no objection can be raised because from many angles the superintendency of schools is the most important position in any community.

The first, and probably the best, means through which the training just recommended can be secured is in separate courses on school-business problems, or in general courses in which business problems are not neglected. Most of these courses will be offered in the department of education under such titles as "school-business administration," "school finance," and "school buildings and equipment." In addition to the courses just mentioned, other colleges and departments of universities frequently offer courses which are pertinent to, or which give a background for, school-business administration; I refer to such courses as those on industrial management, public finance, accounting, and architecture.

A New Literature Available

In these courses one of the most important aims of the student should be to secure an acquaintance with the literature of the subject. Within the past decade a large and scholarly literature on school-business administration has appeared. This literature includes several textbooks, numerous doctor's and master's theses, survey reports, and bulletins and periodical articles. Only within the past three or four

years, several textbooks devoted wholly to school-business administration have been published, and almost as recently numerous doctor's theses have been written on such topics as types of administrative relationships, maintenance of school property, use of buildings, purchase of equipment, administration of supplies, bonds, indebtedness, sources of revenue, the school janitor, insurance of school property, planning of buildings, school architecture, the budget, the depository, and financial accounting.

In addition to this acquaintance with the literature, provision should be made for securing first-hand acquaintance with school-business problems. This first-hand acquaintance may be secured through fieldwork and first-hand observation. It may be secured in school-survey work, or by paying visits to school systems noted for the way in which they handle certain things. Thus, Minneapolis and St. Louis are noted for their school-janitorial service; Des Moines, Iowa, for its splendid school payroll procedure; Gary, Indiana, for its financial accounting and inventories; Rochester, New York, for its administration of school supplies; St. Louis for its school architecture; and other cities for their handling of business matters.

In conclusion, when business training for the superintendent has been made available and taken advantage of, the superintendent will be accorded greater deference—and will be entitled to greater deference—by hard-headed business men on the board of education. In consequence, his professional life will be more blissful and prosperous and, what is of greater importance, the schools will be conducted upon a higher plane of efficiency than ever before.

Reducing and Handling STUDENT FAILURES¹

C. A. Pugsley, Professor of Elementary-School Administration, State Teachers College, Buffalo

Failure is a device commonly used by the school through which it attempts to correct the adjustment of a maladjusted pupil. Whether or not failure accomplishes the purpose for which it is used has been seldom questioned. But even a brief examination of the uses and purposes of failure at once breeds distrust of its worth.

There are various factors in a child's school situation, viz., the teacher, the curriculum, the teaching method, the school organization. All these exist in order that the child might learn. Any one of these factors may be out of adjustment, in which case the pupil suffers the consequences. He is the one that is adjusted through the device of failure to meet the deficiencies of one or more of the remaining factors. It is this fact that has led to the statements that "The failure of the pupil is the failure of the school," and "Failure is a device for adjusting the child to the school." The better philosophy underlying adjustment would be that the school should be adjusted to the child.

It cannot be maintained, however, that the school, its teachers, teaching methods, organization, and curriculum have as yet arrived at the point of excellence where failure can be eliminated. This point will be reached when we can claim a school perfectly organized, perfectly administered, and perfectly taught.

What Failure Means

Failure as an adjustment device rests on an indefensible foundation. Not only is it a device for adjusting the pupil instead of adjusting the school, it is also a means of teaching the child

to fail in life. The failure of a child is much more of a means of teaching more failure than is it a means of teaching success. It breaks the child's faith in his own powers and builds in him inferior feelings that frequently work their deadly fear on him all through life; it gives him a wrong sense of proportion as to what is important and what is not important.

For some reason, not easy to explain, annual reports of schools and school systems are surprisingly silent on the problems of student failures. Data which will reflect favorably on the schools abounds, but data on the subject of failures is not a strong vindication of success, hence it is not so willingly given out. When the data on failures is obtained, various conditions are reflected. Trying to reduce the data to general trends and conclusions, the following facts appear:

1. The rate of failure in the elementary grades ranges from 20 per cent in grade one to 4 per cent in grade eight. The mean trend is approximately 9 per cent.

2. The rate of failure decreases as the grade advances.

3. From one third to one sixth of first-grade children fail.

4. Ninety-nine per cent of first-grade failures are failures in reading.

5. A child who has attended kindergarten has 33 per cent more of a chance to complete his first grade in one year than has the child who has not attended kindergarten.

6. A study made by the Research Division of the National Education Association shows that children from small rural schools do not have as good a chance to make their grade as do the children of larger rural schools.

In 76½ per cent of the comparisons made, children from large rural schools were superior in reading to children from small rural schools.

In 89 per cent of the comparisons made, children from large rural schools were superior in arithmetic to children from small rural schools.

In 81 per cent of the comparisons made, children from large rural schools were superior in spelling to the children from small rural school.

7. Children who are over age for their grade show the largest amount of failure.

8. Boys are more likely to fail than are girls. Along with this must be included the fact that boys do not differ from girls in mental capacity.

9. Children of lower mentality represent about 37 per cent of all school failures.

10. Arithmetic accounts for 85.3 per cent of the subject failures in grade four.

11. Arithmetic accounts for 72.4 per cent of the subject failures in grade eight.

The Financial versus the Human Cost

It has been urged by some who have studied the question that each time a student repeats a grade or a subject the cost of giving him that second year or term of work is simply that much sheer financial waste. On first impression it does look as though the school district is paying twice for what one payment should have been sufficient. However, retardation in school is not expensive in terms of financial cost, but is actually a means of reducing costs. The cost of education per child per year in the elementary grades is below the cost per child per year for junior-high-school or senior-high-school education. The more, then, it is possible to

¹Abstract of an address before the Associated New York School Boards and Trustees of New York State, Buffalo, October 10, 1932.

keep the pupil down in the elementary or lower school years, the less is the cost. It should be noted also that the extra year spent in any grade is not, as a rule, an added year spent in the school system, because children must and usually do remain only to the end of the compulsory-education period. Furthermore, the more retarded a child is, the more likely he is to take advantage of the first opportunity to drop out of school. From the standpoint of cost, the retarded child is not a financial liability.

It is when we see these failed individuals taking on their various defenses and regressions that we begin to realize that the cost of failure is not to be reckoned in terms of dollars and cents, but in terms of human loss. Probably not a single child comes through a failing experience without some impairment of his mental and emotional health. One child assumes a heroic attitude and broadcasts his failure with loud boasting among his fellows. If he can only tell them with boasting before they can tell him with shame, he will be that much more comfortable. Another becomes a bully and vigorously applies his feet to the shins of the incautious soul who ventures to speak accusingly of his inability. Another becomes callous and indifferent to school and its expectations of him. The job is no longer up to him to master these time-honored skills and knowledges. This task now belongs to some adult who may get along without his help. With another child this indifference sinks into dislike for school experiences and those fields of human learning in which he has failed, this dislike fixing undesirable attitudes for the rest of his days. Another is subdued and regressive. He withdraws into himself with the feeling of being licked and socially disgraced. He is like an animal caught in a trap, and with no way of escape.

It is no use for educators to argue that the child ought to take this experience differently, to say that it is an opportunity to regain lost ground, or that the failing experience should teach the child not to dawdle and play, etc. The child cannot see a blessing in failure when everyone else sees it as a loss of social caste.

Some Remedies and Preventives

What can be done? Causes of failure, other than those already mentioned, will appear as methods of handling failures are presented:

1. *As the first preventive I would urge, is that the value of kindergarten training as a means of facilitating progress through the grades be presented more earnestly by boards of education to the people.* It frequently happens that all parents do not use these facilities where school boards have provided them. I have already referred to a study which shows that the child who attends kindergarten has 33 per cent more of a chance to complete his first grade in one year than has the first-grade child without kindergarten experience. Another study of 3,000 upper-grade students, 1,500 of whom had received kindergarten training and 1,500 who had not, showed that the kindergarten-trained had a significant margin of superiority over the nonkindergarten-trained. The habits of work and the arts of living together developed in the kindergarten do tell for the good of the child as he proceeds through his school experience. I ask that school boards who must face trying problems in budget-balancing to think long and hard before this unit of school organization is discontinued. The time when it was an experiment lies far in the past.

2. *A second preventive measure is to set up a better admissions policy for the grades.* At present, children are admitted to first grade when they are about six years of age. This basis of admission rests on the old idea that all children are alike in ability to learn and that the reason they do differ is because of perversity and lack of determination. Of course no en-

Of the many problems which the depression has brought to the foreground, the non-promotion of pupils has been considered least. Still failure is causing a huge waste of childhood and deserves quite as much attention as budgets, salaries, and readjustments of programs. School boards will find the present discussion illuminating and suggestive for bettering conditions.

—Editor.

lightened person holds to such notions today. Just as 6-year-olds differ in height and strength, etc., so do they differ in ability to learn.

Recent investigations to determine the degree of maturity essential for beginning to learn to read have set that minimum mental maturity at 6 years 6 months, not a chronological age or age from birth. Measuring instruments or tests for determining the mental maturity of children are now reasonably well developed and inexpensive. They can be used by intelligent teachers and principals if they have received the rather simple training in handling them. School boards must, of course, first give their approval to these testing programs and vote the small amount of money necessary to purchase the tests. Having administered the necessary tests—and it is important to caution against basing important judgments on the result of one test—those who are mentally mature enough to undertake beginning reading should be admitted to first grade. An admissions plan of this kind should tend not only to reduce failures in the first grade but failures at higher grade levels.

Demotions Upon Transfer

There is another aspect of the admissions policy which has a bearing on failure. Unfortunately there is a number of school systems which feel that they must pay themselves a compliment by demoting by a whole or half grade, pupils who are transferred from some other school system. Any child in a new environment must undergo a period of readjustment. At such a time his abilities tend to scatter and accordingly reflect unfavorably upon him. A child is entitled to a month in which to make an adjustment to new pupil and teacher personalities, new building routine, and other requirements. It is only on rare occasions that a transferred child should be demoted. School systems which follow a demotion policy for transfer cases are to be severely condemned for buying such dubious compliments at such terrific human costs.

3. *My third suggestion bears on the heavy strain on children's eyes and nervous systems in learning to read.* Research has shown that a minimum mental age of 6 years 6 months is best for beginning reading. This does not, however, mean that at this age other factors are favorable to the learning-to-read experience. There is accumulating evidence that it would be better for children to be 7 or even 8 years of age before they are subjected to the acute nerve and muscle demands made in the reading act. There is no finer set of muscles nor a more delicately adjusted nervous equipment than that which operates the eyes. We are much more considerate of the child in teaching him to write, because for the early mastery period in this skill we call into play only the large muscles of the upper arm and shoulder. With total disregard for the delicacy of the eye nerves and muscles we plunge the first-grade child into the reading experience. It takes about one third of the body's nervous energy to operate the eyes. Add to this the excessive strains involved in eye focusing on the variations of printed letters and in making the lightninglike movements which occur as the eye moves across a printed line, and there is amassed a demand on the delicate organism of a child that it were better it had not been made.

This brief plea is to the end that educators and boards of education will give heed to the strain involved in learning to read, evidenced by the heavy failure in the first grade, and that some brave school systems might venture to postpone reading to the second year. There appears a needed curriculum adjustment at this level of the school program.

The Useful Preprimary Class

4. *There is another organization device which some school systems use, notably Los Angeles, to reduce the mortality in the first grade.* Recognizing that the majority of children should probably spend three half years instead of two half years in the first grade, an additional step is inserted between the kindergarten and the second grade. This may be called the "preprimary" class. (Los Angeles calls it the "Little 1B's.") Children entering the first grade are assigned to this class. As the term progresses those who show maturity sufficient to complete the work of the first grade in one year, are promoted to that group as soon as their fitness is evident. The others proceed through three promotion intervals instead of the traditional two, until they reach the second grade where the one grade per year rate is resumed. This plan eliminates the idea in the mind of a child that he has failed. A scheme of promotion is substituted for a scheme of demotion or holdover.

This device does not, as a rule, need any extra staff because about the same number of children are in this grade for approximately the same length of time.

Of the solutions proposed for the problem of failure in the first grade, the plan for postponing the initiation into reading experience for a half or even whole year beyond the present age of entrance holds the greatest promise. The postponement can safely be made as studies have shown, without lengthening the total elementary-school experience or sacrificing reading efficiency. Such a procedure recognizes the principle that the school, its teaching method and curriculum, and its administration, should be adjusted to the child rather than that the child be adjusted to the school.

The Bugaboo of Long Division

5. *The heavy mortality in arithmetic in the fourth grade indicates the need of a curriculum adjustment.* Undoubtedly long division accounts for most of the arithmetic failures of grade four. This fundamental process is the most abstract of the four, thereby making a learning demand that many fourth-grade children are not able to meet. There is good investigation evidence which leads to the conclusion that long division would be much more easily and efficiently learned if it were placed in the sixth grade.

6. *Correction of physical defects has been shown to be accompanied by noticeable improvement in school achievement.* This is true particularly of defective vision, nasal breathing, diseased adenoids and tonsils, defective teeth, nervous diseases, tuberculosis, malnutrition, and anemia. Correcting the defects in such cases was accompanied by improvement in school achievement in 61½ per cent of the children. Sixty-four and a half per cent of these cases showed improvement also in school attendance. The effect of physical defects on the period needed for completing the elementary-school experience is shown in the following data:

Kind of defect	Time to Complete 8th Grade
No defect	8 years
Defective vision	8 years
Bad teeth	8.5 years
Improper breathing	8.6 years
Hypertrophied tonsils	8.7 years
Diseased adenoids	9.1 years
Enlarged glands	9.2 years

7. *A careful case study of each child who is doing failing work, if made in time, generally reveals causes which can be remedied and failure prevented.* Teachers and principals have not engaged in the practice of making case studies as much as is reasonable to expect them to do. It is indeed pitiful to hear the monotonous repetition of such superficial explanations as "he is lazy," "he's perverse," "he's spoiled," "a peculiar child," "slow," substituted for thoroughgoing studies of pupils' difficulties. Many a sin of omission and ignorance on the part of those who should be efficient guides to growing youth has been covered up by such shallow explanations. Causes lie deep and should receive study long before the tragedy of failure occurs. History of early childhood diseases, school and home experiences that have produced damaging attitudes, loss of self-confidence, attitude of adults to the child, gaps in educational experience, feeling of security in his home, study conditions in the home, sleeping and eating habits, worries, regularity of attendance, are some of the numerous factors which enter into the picture as causes of failure. These causes need to be determined, recorded, and studied. The principal of a school should not only engage in these intensive "case studies" but he should expect his teachers to do so also as a means of preventing failure. Making age-grade studies and age-grade progress studies of the whole school enrollment is a means of locating the cases which should be intensively studied.

Better Promotion Policies

8. *Many schools can reduce failures by more carefully setting up promotion policies.*

I want to propose that there be just one basis for promotion from one grade level to the next; viz., that those children shall be promoted who show reasonable promise of being able, from the standpoint of physical, mental, and social maturity, to carry the work of the next grade. The question of whether or not the child has been a truant, whether or not he has refused to write the compositions the teacher has assigned, whether or not he has been saucy to the teacher, whether or not he has studied his homework or made 10 or 90 per cent in history, etc., is beside the point. If a child *can* do the work of the next grade, even though he has not earned promotion, he should be moved ahead. To fail a child on the basis that he needs to be taught a lesson is to acknowledge that we know all too little about how and what children learn. Such kind of failure can minister only to the school's desire for vengeance and not to the educational and moral growth of the child. It is the child who in the long run chooses what lessons he is going to learn. My experience as administrator of elementary schools leads me to regard the promotion policy I have proposed as a much-needed and important one.

This promotion policy further implies that children will receive the benefit of doubts and be promoted on trial, or on condition. In other words, they should be allowed to enter the new grade on a month's probation. Experimental usage of this method of promotion has fully justified it as a promotion measure.

Trial Promotions Helpful

Dr. B. R. Buckingham found that in two large cities of Illinois, Springfield and Decatur, where 1,276 children were promoted on trial, 70 per cent of them made good in their new grade. Similar investigations made in California by Professor Ford of the University of Southern California showed similar results. Trial promotion is much to be preferred.

There are, however, accumulating in any school system a certain percentage of children who are incapable of making a grade per year in terms of traditional subject-matter standards.

The records and reports on such cases should be marked "special," and the individuals should be sent on to get as much as they are able. The social adjustment of such children must be weighted as equal in importance to their educational adjustment.

9. *Data available indicates that the annual promotion plan is accompanied by less failures than the semiannual promotion plan.* Some years ago, when school systems began to be disturbed about the large number of laggards, the plan of regarding each grade as composed of two stages, each requiring a half year of work with a promotion period in February, was instituted to reduce the amount the failing child would have to repeat. This semiannual promotion scheme has been in existence long enough for its value as a means of reducing retardation to be studied. Such a study conducted in Iowa has shown that for each 100 pupils studied in the semiannual promotion systems there were 8.52 skips and 55.22 failures. For each 100 pupils studied in the annual promotion systems there were 1.62 skips and 23.63 failures. The rate of failure is significantly in favor of annual promotion. Teachers are evidently less willing to fail a child when he will be required to repeat a year of work. It may be that the semiannual system can be improved so that its rate of failure can be reduced. At present, however, the evidence does not justify changing from the annual to the semiannual plan. Furthermore, if I were a school-board member of a system of schools that shows a failure rate in excess of 3 per cent I would seriously consider the necessity of throwing out the semiannual promotions.

A New Theory for Elementary Schools

10. *Coaching classes and special classes for retarded children and children with language handicap are a means of preventing and handling student failures.* When these are not possible the regular classroom teacher can set aside the period from 8:30 to 9:00 in the morning for giving special diagnosis and help to needy children.

11. *My last proposal suggests that the waste incident to failure in the school be eliminated by the development of a better theory of school organization.* The present theory of the nature of the elementary school is that it is an institution into which is received children of approximately six years of age. These children are expected to attain certain levels of mastery of subject matter before proceeding from one grade to the next. This necessitates that some children must repeat certain portions of work before the individuals are regarded as being ready to enter the next higher division of the school system.

The new theory of elementary school is that it is an institution into which the child enters at approximately the age of six years. He spends six years, or eight years, according to whether or not the system uses the junior-high-school plan, living as intensively and as richly as possible. He gets everything he can assimilate each year of his attendance, and is regularly advanced. At the end of the six or eight years, as the case may be, the next higher division receives him regardless of the level of his educational attainment. This means that the upper school must, for a number of cases, institute classes that will give him further mastery of the essential tools of learning he may be able to acquire. At the same time, he participates according to his time and abilities in the other activities and studies of this upper school.

According to this plan there will be no retardation of pupils. They receive what is their just right to receive; viz., the right to richness and fullness of living in the schools. By such a plan the schools recognize in fact as well as in theory that the school exists for the child not the child for the school.

GROWTH OF THE ROANOKE CITY SCHOOLS UNDER DWIGHT EGGLESTON MCQUILKIN

In 1909, when Dwight Eggleston McQuilkin, of Shepherdstown, West Virginia, arrived in Roanoke, Virginia, to assume his duties as teacher in the high school, he found a city of 34,874 people and a school population of 6,256, with a teaching force of 148. Today Roanoke has a population of almost 75,000, a school enrollment of more than 15,000, and a teaching



DWIGHT E. MCQUILKIN
Superintendent of Schools,
Roanoke, Virginia.

corps of 487. In 1909, there were 7 white schools and 2 negro schools; this number included 1 four-year high school with an enrollment of 480. Today there are 13 elementary white schools, 5 white junior high schools, and 1 white senior high school, 3 negro elementary schools, and 1 negro senior high school. The schools are organized on the 6-3-3 plan which insures an offering to each child that fits his abilities and desires as he passes up through the school system.

In 1912, McQuilkin became principal of the high school, serving in that capacity until 1918, when he was appointed superintendent of the Roanoke schools. In the same year Honorable Harris Hart, who had served as Roanoke's superintendent for eight and one-half years, was elected state superintendent of public instruction.

During the fourteen years that Mr. McQuilkin has served as superintendent, the junior high schools have been organized and placed in operation. During the past five years the city has spent more than \$928,402 for new buildings and equipment. The citizens of this young and rapidly growing city recognize the value of excellent educational offerings for their boys and girls. In 1912-13 the total annual expenditure for schools was \$134,036.01, today it amounts to \$820,225.25.

Mr. McQuilkin has a master's degree from Harvard, is a member of Delta Tau Delta.

The ideal location of Roanoke, in a beautiful valley between the Blue Ridge and the Alleghenies, bids fair to seeing her population double again during the next twenty years; which would mean also doubling her school enrollment. Roanoke is now a trade and distributing center for more than 150,000 people. Her industries are varied, means of transportation excellent, the spirit of her people sound, and her schools and other educational means constantly improving.

Some Economic Principles Basic to School Finance

William G. Carr, Director, Research Division, National Education Association

I. Economics and Education

Economics, as a science, seeks objectively to study the ways in which human wants and needs may be satisfied. As a science, economics shares with other sciences an important limitation. It describes for us what is; it may even guess what will be; it can never tell us what should be. Economics suggests how human needs and desires may be efficiently fulfilled, but it tells us nothing about the relative value or importance of our varied wants and aspirations, nothing as to which ones should be satisfied and which ones turned into another channel.

But in its own province the scientific approach to the study of economic relationships is an indispensable tool for social planning. We all know, for instance, that a dollar will buy far less goods today than it would in 1890 and considerably more goods than in 1928. Economics explains the nature and reasons for these fluctuations, formulates a general principle governing them, and advises us how we should proceed in order to allow for these changes in the buying power of money. Again, we are all aware that if many people want to buy oranges at a time when oranges are scarce, the price of oranges will tend to rise. The economist, however, from his study of many hundreds of such phenomena, tells us more exactly under what conditions prices will rise, how high they may go, and how long they will stay up. He formulates a law which states the relationships which tend to occur among supply, demand, and price. If we understand this law we are in a better position to predict and control what will happen to prices under given conditions. These conclusions and general laws are not, it is true, as completely and accurately stated as the laws of physics and the other natural sciences. But economic laws are as comprehensive and stable as the basic data on which they rest—the unpredictable minor vagaries of mankind.

Do economic laws and principles have anything to do with education? Education is mainly a psychological phenomenon. What possible connection can be traced between the harsh materialistic concepts of economics—values, wealth, prices, and the like—and the subtle spiritual influences of education? Who will undertake to trace a connection between economics, “the dismal science,” as Carlyle savagely called it, and the growth and guidance of childhood? Is not wisdom “more precious than rubies, and the merchandise of it better than the merchandise of silver”?

The actual processes of education are not profoundly or directly affected by economic forces. Nevertheless, education does have a definite and important economic aspect. Schooling has a price. There is, at any given time, a certain rather definite demand for it and a limited supply. The demand is subject to sane control by the usual means of advertising and salesmanship. Economic principles underlie the support of public education just as truly as they do the purchase of a pound of coffee or the sale of a government bond. Although the processes of education are mental, its management and support are political and economic. Not only do schools have an economic background, but education itself has far-reaching effects on two basic processes of economics—production and consumption. Out of the many contact points between school management and economic theory, this article selects three concepts which are fundamental to sound school finance: the nature of taxation, the economic law of supply and demand with special reference to teachers’

wages, and the broad economic effects of education.

II. The Nature of Taxation

The tangled problems of school finance make exceedingly difficult the task of tracing in them the operation of basic economic principles. In most modern civilizations the problem is greatly complicated by the fact that the support of education is, by and large, a public function. Private schools thrive in America and elsewhere, but most of the cost of our schooling is paid for out of the public purse. This assumption of financial responsibility by the people as a whole rather than by the people as individuals may delay and conceal the operation of the economic principles involved. Sooner or later, however, these economic laws will assert themselves and become evident to all.

A good deal of unnecessary mystery has been allowed to cling to the fiscal operations of government. The operations of public finance, however, are in most respects very much like those of private finance. Although their functions and sources of revenue may differ, both consist primarily of a transfer of purchasing power. Money is transferred by taxation from “A’s” pocket to the public treasury. The treasury, in turn, gives most of the money to “B” for personal services rendered currently or previously as teacher, policeman, contractor, clerk, or pensioner. The remainder of the money is paid out of the public treasury for sundry goods—for textbooks, pencils, sacks of cement, fire engines, machine guns, and cruisers.

A common economic fallacy which is abroad implies that money put into governmental enterprises is in some mysterious way swallowed up and lost to humanity forever. It is popular nowadays to commiserate with the overburdened taxpayer and to imply, if not actually to assert, that tax payments constitute a sort of charitable gift for which the taxpayer receives no return. The public employee, however industrious or useful, is frequently regarded as the object of public bounty. This condition is most clearly revealed when the selection and appointment of public servants is complicated by extraneous considerations as to whether or not the candidate needs the money.

A single illustration of this point of view will suffice, for the general trend of it is familiar. A recent journal exhibits a large calendar with a certain number of days blotted out in solid black. These days are supposed to represent the proportion of the people’s income devoted to governmental enterprises. The text which accompanies the calendar reads, in part, as follows:

Would it spoil the flavor of your Thanksgiving turkey or make any less merry your Merry Christmas if you knew that beginning about the middle of November and continuing until the last day of the year every penny you earned was to be handed over to a tax collector? . . . You may have escaped paying your share directly to the tax collector but it is a certainty that out of 305 working days in 1928 the average Missourian worked 35 for the government and only 270 days for himself.

Obviously this statement conveys, to an uncritical reader, the impression that citizens are being imposed upon by a parasitic government which snatches away without due return about one tenth of every toiler’s income. No one works “for himself” except the hermit who consumes only the direct products of his own toil. It would be just as reasonable to lament because the average Missourian works about 150 days for his landlord and his grocer and only 155 days for himself, or because he works about 45 days a year for Henry Ford and his colleagues and only 260 for himself, since these ratios

represent, very roughly, the proportionate expenditures for housing, food, and automobiles. Yet no one bewails these facts or permits them to destroy his holiday festivities.

True, immediate and tangible returns from money paid as taxes are sometimes difficult to see, primarily because the returns are necessarily delayed. I pay fourteen cents for a gallon of gasoline and, in theory at least, I can then drive my car some fifteen or twenty miles. I am asked to pay an additional three or four cents in the form of a gasoline tax and I am quite likely to forget that the tax is spent for highways for me to drive on, just as truly as the larger bill is spent to provide the gasoline and the means of selling it. Taxation is primarily a device whereby a great many of us pay a single collective bill with a maximum of convenience and economy. Nevertheless, the thinking of many people with respect to taxation has been sadly muddled. Many a citizen who will contentedly pay for having his house painted to protect it against the weather, will strenuously object to paying taxes on this same property in order to protect it against burglary and fire. Many a well-to-do parent is willing to buy his son a roadster to drive to high school and at the same time, complains of the much smaller outlay in the form of a school tax to provide the school for the son to drive to.

There is nothing peculiarly sacred or peculiarly profane about public expenditures. Like private expenditures they may be wisely made or unwisely made. They may be spent worthily or unworthily. They may be too high or too low. But the general and frank condemnation of all taxes for all purposes at all times shows a lack of understanding as to the real nature of taxation. It is profoundly untrue, from the economic point of view, that the state with the lowest tax is the best state. The ancient belief that taxation is inherently evil, as certain and as calamitous as death, is a dangerous superstition.

Shrewd Ben Franklin remarked that taxes and death are equally certain, but he did not say that the two are equally painful or permanent. A much more accurate Franklinism is the declaration that, “We are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly, and from these taxes the commissioners cannot ease or deliver us by allowing an abatement.”

When taxes are fairly leveled and wisely spent they become investments in economic and social well-being. Money spent for schools, or for any other public purpose, is not a depletion of our national spending power. Two billion dollars spent for schools instantly becomes two billion dollars of income, most of which is immediately spent again by the teachers and other employees who receive the major part of the school money. The school is an arc, integral with the full economic circle of getting and spending. It is time to scrap the “lost-and-gone-forever” theory of public spending.

These considerations constitute no blanket indorsement of our present typical tax-gathering machinery. Its defects are well known and the needed remedies available.¹ The need for tax reform may be admitted, however, without condemning taxation, root and branch. Tax reform and tax reduction are not necessarily identical; indeed, they may even be inconsistent. Nor does our insistence that taxation is a useful economic device imply approval

¹For a brief review and bibliography consult: National Education Association, Research Division, *School Revenues and New Methods of Taxation*, Studies in State Educational Administration, No. 2 (Washington, D. C.: the Association), January, 1930.

of unnecessary taxation or of extravagant, incompetent, or dishonest spending of public money. Economy in public affairs is as highly desirable as economy in personal affairs — and as dangerous. To begrudge every cent spent for schools or other governmental operations is neither sound economy nor sound economics.

III. Demand and Supply

Among all the economic principles which adorn the pages of treatises on this subject, none occurs with more regularity and prominence than that of supply and demand. A magic and impressive phrase, it is to economics what the law of conservation of energy is to physics and the law of evolution to biology. Does this fundamental economic law affect education? If it does, how can we plan to make its effect helpful rather than harmful to the efficiency of our public schools?

The prices of all the goods purchased by school districts — all sorts of textbooks, supplies, building material, and even land — are subject to the operation of this law. This general statement applies not merely to material things but to salaries of school employees as well. Since so large a part of the school budget is devoted to the salaries of teachers and since the teaching service itself is so crucial in the direction and improvement of the educational process, we shall center attention on the law of supply and demand as it affects the salaries of teachers. More narrowly stated then our question becomes: How does the law of supply and demand operate in fixing teachers' salaries, and how can this law be made to work with, instead of against, the cause of educational progress?

The law of supply and demand is an abstract statement of market conditions which connects the value of goods and services with their supply and demand. Briefly stated, the law declares that the supply and demand of any commodity tend to become equal, any tendency to inequality being immediately compensated for by an upward or downward movement in its price. When the supply increases more rapidly than the demand, prices tend to fall. When the demand outruns the supply, prices tend to rise. The supply as used in this definition does not mean the total amount of a commodity existing in the entire world. It means the amount of the commodity which is offered for sale; similarly, the demand is not simply the amount of goods or services which are wanted, but the amount which is wanted badly enough to make the purchaser willing to pay for it. The concept of a balance between supply and demand applies not only to goods, but to services; not only to prices, but to wages. When we speak of services, the employer is the purchaser; the employee is the seller. The principle of demand and supply controls the earnings.

It may be necessary now to point out that the law of supply and demand, like other natural and social laws, can be controlled even though it cannot be broken. This is true even of laws in the physical realm. None of us can successfully command water to run up hill, but the application of human intelligence can make the law of gravity work for us. We do so in a most spectacular fashion when we harness a waterfall to furnish electric power. Man's scientific and industrial advance has not come about because we repeal natural laws but because we understand them and harness them to our own good purposes.

Will not our experience be likewise with economic principles? We cannot abolish the law of supply and demand but we can control the operation of it so that it will be socially constructive. There is nothing mysterious about this law, and nothing particularly dangerous. We can make it work with us just as easily as we can have it work against us. Furthermore, we ought to do so.

Now, in the teaching profession, the total number of persons holding the required certificates who are out of work and willing to teach, constitutes the supply. The demand at any given time is the total number of teaching positions open due to resignations and withdrawals of all kinds, plus a few vacancies or unfilled positions. The law of supply and demand tends to bring these two factors into balance at a point where the maximum number of positions are filled at a wage which the certificated teachers most in need of work are willing to accept. Suppose a state suddenly decided to permit any elementary-school graduate to teach in the public schools. The sudden inflation of the supply, due to lowered standards, would send wages downward until only the neediest and least-trained people would accept them. Given a relatively constant demand for any kind of service, the wages will tend to decline toward a level of subsistence or below, as the supply of that service increases. The economist doubts the efficacy of an unlimited amount of propaganda for higher salaries to bring about a permanently different result.

Although the foregoing statement will hold true if conditions are not interfered with, both supply and demand are subject to control. In terms of quantity, the demand for teachers is fixed largely by three factors: the number of children in school, the size of the class which is accepted as reasonable and desirable, and the sparsity of population in the community to be served by educational facilities. This quantity demand for teachers tends, on the whole, to be rather inelastic and will probably tend to become less variable as the years go by. As our enrollment in secondary schools reaches the saturation point, as consolidated schools replace the smaller rural schools, and as the number of children placed in each class becomes more or less standard practice, the quantity demand for teachers will reach a rather stable position.

But the demand for quality in teachers is subject to important fluctuations. As soon as a state begins to set up standards for entry into the teaching profession, the potential supply is progressively reduced by the elimination of those who are unwilling or unable to meet these standards. The supply of teachers can thus be controlled by manipulation of the standards for admission to the profession. As soon as the economic attractiveness of teaching produces an excess of candidates, the standards can be lifted and the excess reduced. Such a policy avoids an oversupply of teachers, saves money which might otherwise be wasted in training young people for teaching positions which do not exist, lifts the caliber and preparation of those entering the teaching profession, and greatly improves the morale of those who are already in the service or about to enter it. The ultimate alternative to such a policy is a reduction of salaries.

In its practical aspects, the problem is, of course, twofold: first, to create a public quality demand for teachers; and second, to persuade school administrators and all other agencies responsible for the preparation and employment of teachers to fix standards at the very highest point which is consistent with an adequate number of candidates for new and vacant teaching positions. If these two tasks proceed concomitantly the law of supply and demand, instead of menacing, as it now does, the economic security of the teaching profession and the educational progress of the nation, may become a powerful agent in lifting teaching to a high professional standing with an appropriate economic reward. This happy result will not be achieved, however, by a *laissez faire* policy. Many states have little or no idea of the relationship existing between the number of teachers who are certificated and the number needed each year. The development of a sound policy

in this respect is impossible without adequate and accurate statistics on teacher demand and supply. Nor is it enough for isolated and individual states to develop such a policy while neighboring states drift aimlessly with every economic tide. The problem calls for concentrated, continuous, and coördinated study in every state.²

Of one thing we may be certain. The law of supply and demand will operate in fixing wages paid in teaching just as it does elsewhere. Teachers will not be permanently exempt from its operation any more than candlestick makers and hod carriers. The fact that teaching is largely a public service may delay the operation of the law, but sooner or later any oversupply of certificated teachers will make itself felt in the market for teaching services. Teachers' salaries will come down, the more capable teachers will leave the profession, new recruits will come from the less promising high-school graduates, and the total effect will be adverse to welfare of the nation as it is bound up in the lives of its school children. The law of supply and demand makes either a harsh master or an obedient servant and the choice is largely ours.

IV. The Effects of Education on Production and Consumption

From the economist's point of view, the two basic operations in modern life are the making of goods and services and the using of these goods and services. The economist applies the terms "production" and "consumption" to these two processes. Any discussion of economic principles and school finance would be incomplete without briefly referring to the way in which the schools affect these two basic economic enterprises. On the other hand, complete discussion is impossible because of space limits.³

Let us begin with production. It is easy to see the machine, the factory, the field, and forget that trained minds and hands have made these things possible. The obvious components of the goods of this world are raw materials and labor. But back of the laborer is the laborer's training. As our natural resources are depleted our human resources must inevitably take on increasing significance. Furthermore, human resources are highly perishable, since they are constantly being destroyed by the death of the individuals possessing these resources. Without an educational system by means of which each generation can pass to the next its heritage of skill and knowledge, our productivity as a nation would be bound to decline with the passing of the present generation.⁴

That this fact is generally recognized by economists is attested by the following typical quotations:

Cassell: "The results of social production on which every person is absolutely dependent in an advanced exchange, economy, are greatly increased by education."⁵

Laveleye: "A country desirous of increasing its prosperity should cultivate all the sciences and shrink from no sacrifice necessary to forward their advance or diffuse the knowledge of their discoveries. Instruction and education aid in increasing the productiveness of labor by augmenting and still more by giving a better direction to the employments of man's power."⁶

Hayes: "The importance of intelligence and knowledge cannot be exaggerated in noting the qualities that contribute to economic well-being, for without these, man is inferior to most of the brutes. . . . By means of each generation becoming successively heir to the ex-

²For detailed recommendations consult: National Education Association, Research Division, "Teacher Demand and Supply," *Research Bulletin* No. 9: 306-407 (Washington, D. C.: the Association), November, 1931.

³For a more complete review consult: National Education Association, Research Division, *The Schools and Business* (Washington, D. C.: the Association), 1930.

⁴Reference is here made to the effect of education upon the economic welfare of a nation as a whole. The effect of education upon the earning power of the individual receiving it is a related topic of great interest and some controversy.

⁵Cassell, Gustav, *The Theory of Social Economy* (Joseph McCable, translator), Vol. I, p. 71.

⁶Laveleye, Emile, *The Elements of Political Economy* (A. W. Pollard, translator), p. 77.

Making High-School Graduation SIGNIFICANT

Lyle W. Ashby, Assistant Director, Division of Publication, National Education Association

The modern school is no more like the school of a hundred, or even fifty, years ago than the latest model automobile is like the old one-horse buggy. High-school graduation programs in general, however, have shown little change, until the past few years, from the formal type of program which the old New England academy, progenitor of the high school, borrowed from the colleges of the time. Recent years have seen a rapidly increasing number of schools breaking away from tradition and taking advantage of the full potential power of the graduation program. The following criticisms have been leveled at the old-type program:

1. It is routinely traditional.
2. It has no definite objectives.
3. It leaves the talents of the class unused.
4. It is overdependent upon outside speakers.
5. It does not help to interpret the school.

Many schools are now developing programs which effectively overcome these criticisms. They are making the graduation programs student projects which honor the graduates and, at the same time, effectively interpret the schools in a period when interpretation is indispensable. This article lists some of the things to be kept in mind in developing the new type graduation program.

Graduation Programs Should Keep Pace

There is no valid reason why graduation exercises should lag behind the march of progress. Opportunity for growth in this phase of our educational program has been neglected. The contrast between the programs of the most progressive schools in this respect, and those still following in the old ruts, is ample evidence of this fact.

The movement for more fruitful graduation programs presupposes early planning, not only because it produces more effective results, but also because it does so with relatively less work. Plans set in motion early will accomplish what no amount of frantic haste can achieve later. Three or four months is none too much time to allow, and to begin planning early in the year is better.

Definite, Worth-While Objectives

The graduation program should be more than a mere spectacle. It should have practical results as objectives. The primary objective of the program is to honor the graduates. Other objectives are:

- To interpret the school to the community.
- To report progress and plans of the school.
- To assist in the solution of community problems.
- To further stimulate the graduate.
- To encourage the undergraduates.

Every program should have definite objectives, carefully thought out in the light of the needs and conditions of the individual school, around which the program may be built. Without this there is inevitable degeneration to worthless routine.

Inasmuch as the newer type of graduation program requires long-time preparation, many schools correlate the necessary work involved with regular classroom activities. For example, the preparation for student addresses can be carried on in public-speaking classes; pageants can be prepared as a part of the work of the dramatics department; and if local historical facts are needed, the history department can assist. This motivates the classroom work and at the same time assures adequate preparation for the most important event of the graduation season.

Student Participation

The members of the class participate in, as well as plan, the newer types of graduation programs. The most desirable practice is to have as many students as possible take part. Such a program allows many students to take an active part, instead of limiting this opportunity to a chosen few, who may be less deserving and probably less in need of such training. It enables more members of the class to demonstrate to parents and the community what the school has done for them. This, in turn, creates a more spontaneous and genuine interest in the school, as well as the program, on the part of the entire citizenry.

When student speakers are used it is suggested that they discuss matters within the realm of their experience which can serve as a basis of profitable discussion. The material can be drawn from the local school or community situation. It is surprising how thoroughly high-school seniors, with the proper motivation, can carry out elementary research projects, and report on them with the facility born of familiarity and with enthusiasm that begets hearty response from the patron. The flamboyant student speech has little value. Orations on the grandeur of Rome and the glory of Greece are out of place.

The Outside-Speaker Problem

The desirability of the outside-speaker type of program, like any other type, depends upon the handling. There is a growing sentiment to the effect that the special speaker is not essential to the success of the program.

Nevertheless, the outside speaker has played, and will continue to play, an important part in the graduation programs of the nation's high schools. When schools use this type of program, the following precautions concerning the speaker are suggested.

1. He should be carefully selected.
2. He should be chosen early.
3. He should be informed of the nature and scope of the rest of the program.
4. He should be requested to make his contribution harmonize with other numbers on the program.

It is suggested that this type of program be alternated with other types of programs.

There is no reason why the type of program should not vary from year to year. Variety will not only lend spice from the standpoint of the patron, but it will make the programs vastly more effective in their cumulative effect from year to year. The program may vary in general nature between the following types, among others:

1. The unified-theme type.
2. The demonstration and exhibit type.
3. The pageant and dramatic type.
4. The survey and interpretation type.
5. The outside-speaker type.
6. Combinations of these types.

Originality and Attractiveness

Why should the program be a humdrum affair carried out in precisely the same way year after year? Why should originality and attractiveness not be evident? The public probably judges the school more by the graduation program than by any other one event of the year, because many people see the school in operation only on this occasion. The school system may be progressive in other respects even if the graduation program is not; but if it is, there are large numbers of patrons who will not know it.

This occasion should be democratic in all its phases. The class, with proper supervision,

should carry, as far as possible, the major responsibility of planning and administering the program. As many students as possible should actually participate in the program. The presentation of gifts or flowers in public should be avoided to prevent embarrassment on the part of those who do not receive any. Some regulation of dress is also advisable. The use of caps and gowns is probably the easiest way to solve this problem, although there is objection to this suggestion by some. Schools sometimes utilize the uniform dress plan.

Service to the Community

The program can be adapted from year to year and from school to school, according to the needs and conditions at the time and place. If there is a feeling on the part of the patrons that the school taxes are too high, the program can be built around a school-interpretation theme. If there is a tendency to high rates of student absence and tardiness, the program can be built around a study of this question by the students, designed to show parents the cost of absence and how they can assist in preventing it.

There are few occasions when the community is as receptive to facts about the school as at this time. Educational interpretation through the graduation program may enhance the value and attractiveness of the event, without in any way detracting from the other purposes for which it is held. In these days every agency for school interpretation needs to be utilized. The printed program, the school paper, and the city paper may be utilized to further the interpretation phase of the program.

The Graduate and the Vitalized Program

The first and chief concern of the graduation program is the graduate. If this principle is accepted the program must be built around the graduating class. The question, then, is to determine how the occasion can be most beneficial to the graduate.

A student program tends to enlist the interest of the graduates because it is an occasion which they assist in planning. The class takes the responsibility. Thus the program is not a passive procedure imposed from above. The students gain helpful experience in two respects: (1) in planning and administering the program; (2) in actually participating in the program.

This furnishes the student a worth-while project which may vitalize the entire year's work. It causes the pupil to feel the occasion to be one of accomplishment rather than mere formality. He knows that he has a coöperative part in the program, that he is not merely a part of an exhibit.

If the pupils have developed special abilities by virtue of their school training, this occasion is the best opportunity to prove it to the community. The graduate will not only gain in self-respect, but will also receive valuable training in the handling of a practical life situation.

The Teacher and the Vitalized Program

In some respects the vitalized program requires more arduous work on the part of the faculty members than the old type, where the only preparation consisted of engaging the most easily available speaker.

The newer programs require long-time preparation on the part of the students, and they must be guided in their preparation by a faculty member or committee, with the coöperation of the other teachers. It has been pointed out by those who have been successful in this

(Continued on Page 59)

School-Board Heads

Who are Making History in American Education

DR. JESSE F. WILLIAMS
President, Board of Education,
Clarksburg, West Virginia

For eighteen years Dr. Jesse F. Williams has been a member of the Clarksburg board of education, and for the past fourteen years has served as president of the board. Over this entire period, the records show that Dr. Williams has never been absent from a regular board meeting.

Born on a farm in 1882 near Marshville, Harrison county, West Virginia, Dr. Williams attended a rural school and academy, taught for a brief period, and in 1904 completed the classical course in West Virginia Wesleyan College. In 1908 he was graduated, *cum laude*, from the Baltimore Medical College. After serving as resident physician in the Maryland General Hospital in 1908-09, Dr. Williams located



DR. JESSE F. WILLIAMS
President, Board of Education,
Clarksburg, West Virginia.

in Clarksburg where he soon gained recognition as an outstanding physician and surgeon. He is a former secretary, and at this time is president of the Harrison County Medical Society. In addition to holding membership in the leading organizations of his profession, Dr. Williams is a Rotarian, a member of the Chamber of Commerce, a member of two leading fraternal organizations, and a trustee of the M. E. Church. He is never too busy to take an active part in all movements for civic betterment.

During the period of Dr. Williams's service on the board of education, the enrollment and the teaching corps have increased by 50 per cent. To the school plant have been added a large athletic field, a vocational building, a junior-high-school building, and a fine building for Negro youth; also large additions to three other buildings.

Dr. Williams believes that the purpose of the schools is to train for citizenship. To this end he insists that there shall be a good school environment, good buildings, and good teachers. At all times he has earnestly endeavored, and with the coöperation of his fellow board members, he has succeeded in keeping the schools free from all influences which would be detrimental to an efficient school system.

The contribution made by leaders in the field of school administration was never more intense and at the same time more gratifying than it is at the present time. Those who head the board of education, though, are usually identified in an intimate way with the economic, civic, and social activities of their respective communities.

Thus, they are also exposed to the influences which at times batter their opposition to the cause of popular education in the guise of economy and retrenchments which are retrogressive in spirit and harmful in fact. The country must, in the stress and storm of a disturbed condition, look to these leaders for that calm steadfastness and guidance so essential to the school administrative service.

The biographical sketches here presented were in every instance prepared by writers who were in close contact with their subjects. They have lifted into view the true merits of the persons here discussed and thus provide a series of character studies well worthy the attention of the American school public.

WM. J. SLEEMAN
President, Board of Education,
Superior, Wisconsin

Wm. J. Sleeman, president of the board of education at Superior, Wis., is a native of Upper Michigan. He was born at Hancock, Mich., on March 20, 1886, and spent his boyhood and young manhood in that city, attending the elementary and high schools there. He learned the printing trade and in 1904 became associated with the *Milwaukee Sentinel* as a linotype operator. In 1911 he associated himself with the *La Crosse Tribune*, then in 1914 with the *Superior Telegram*, and has continued in the employ of that firm since that time.

He was elected to school-board membership in 1928 and was selected as president of the board following his reelection in 1931. He has always had a keen interest in public education, and gives of his time unsparingly in his efforts to improve the educational facilities of the city. In the present depression he has shown real courage in fighting the battle against unreasonable and unwarranted retrenchment, while at the same time he has done all in his power to encourage all proper economies in the schools. He is a lover of outdoor sports and athletics.



MR. WILLIAM J. SLEEMAN
President, Board of Education,
Superior, Wisconsin.

HUGH W. DIEHL
President, Board of Education,
Bellingham, Washington

Mr. Hugh W. Diehl, president of the board of education, School District No. 301, city of Bellingham, was born Sept. 19, 1880. He received his education in the public schools and the high schools of Bellingham, and his higher education in the University of Washington.

Mr. Diehl has been actively identified with public interests in the city of Bellingham since his early manhood. First engaging in a bicycle repair shop, he moved on into the automobile business at the advent of the automobile. He has continued in this line of work until today he is the owner of the Ford agency in Bellingham and is conducting one of the most systematic and efficiently managed automobile businesses in the Pacific Northwest.



MR. HUGH W. DIEHL
President, Board of Education,
Bellingham, Washington.

Mr. Diehl has been actively identified with civic interests being a member of the Chamber of Commerce, a member of the board of directors of the Y.M.C.A., an officer of the Bellingham Yacht Club, member of important committees in Rotary, a member of the board of directors of the Boy Scouts, and a director of one bank and of a savings and loan company.

In addition to active identification with these organizations Mr. Diehl is identified with several progressive movements in civic affairs, and takes an active part in community-chest drives and relief programs.

Educationally, Mr. Diehl has stood for an efficient business administration of the schools of the District, and during his régime School District No. 301 has become entirely free from bonded indebtedness, being the only first-class district in the State of Washington to have such an enviable financial condition. He has been an ardent supporter of the policy of "pay as you go," and under his administration there have been added three school buildings, two gymnasiums, and the complete rehabilitation and enlarging of two other schools within the district, all of which improvements have been paid for when constructed.

Mr. Diehl has been a member of the board of directors since March, 1926.

ROBERT J. HILL

**Chairman of the School Committee,
Cranston, Rhode Island**

Robert J. Hill, recently reelected to the Cranston school board for another term of four years to terminate January 1, 1937, has served as a member of the board since January, 1929, and as chairman since July 6, 1931.

Since coming to Cranston in 1914, Mr. Hill has been actively interested in the social, civic, and educational problems of the city. He is vitally interested in the welfare of the children of the community and considers the public schools as the most effective means of working in their behalf. He gives freely and unselfishly of his time, energy, and thought in committee work, considering and solving the problems connected with the policies of the public-school organization.

Through his efforts this year the work of the school department has been extended to provide instruction for physically handicapped children who are confined to their homes.



MR. ROBERT J. HILL
Chairman, School Committee,
Cranston, Rhode Island.

As a vocation, he holds the position of art director in the bronze division of the Gorham Manufacturing Company, of Providence. His experience and ability as a designer have given him an active interest in civic planning and school architecture.

Last year the Rhode Island Association of Public School Officials, in recognition of his interest in school problems and ability for efficient service, elected him president of that organization.

MRS. A. D. RYCKMAN

**President of the Board of Education,
Oshkosh, Wisconsin**

Mrs. A. D. Ryckman, president of the Oshkosh board of education, was born in Wisconsin. She attended the public schools and upon completion of a training course worked faithfully as a teacher for more than 25 years. Since retiring from her profession, she has truly given her life to her home, her church, and the public schools.

Besides the time she gives to the first two activities, she devotes many useful and happy hours to the schools. She has been a punctual and efficient member of the board of education for nearly twelve years, and for the past six years its president. With the many necessary official duties performed, she still finds ample time to help formulate educational policies that are far-reaching. During her service on the



MRS. A. D. RYCKMAN
President, Board of Education,
Oshkosh, Wisconsin.

board, a teachers' salary schedule has been adopted which for years made the compensation of the teacher measure up to her training and experience. Mrs. Ryckman has been active in providing better working conditions for teachers and pupils. Two years after taking a place on the board, a definite building program to cover a ten-year period was adopted and formally presented to the commission council of the city. This program has been adhered to in the main, and as a result four new school plants or large additions are now in use. This program called for the expenditure of well over one million dollars. The expenditure of that money spread over her entire incumbency has involved endless details as to plans, specifications, contracts, and construction.

Besides the time devoted to her official duties, Mrs. Ryckman has found time to visit the schools and is generally regarded as a welcome visitor and a loyal coworker of the teacher.

L. F. LEACH

**President of the Board of Education,
Cloquet, Minnesota**

L. F. Leach, president of the school board of Cloquet, Minnesota, has served on the board



MR. L. F. LEACH
President, Board of Education,
Cloquet, Minnesota.

for 32 years. He has seen the school system grow from an enrollment of 287 in 1901, to 2,000 in 1930, and the high-school graduating classes from 2 or 3, to 104. The teachers' wages have increased from \$11 per pupil enrolled in 1901, to \$48 in 1931. There will be a reduction in the latter figure for 1933.

Mr. Leach believes in sound progressive policies. He is never hurried into any new educational experiment, but is willing to attempt anything new that he thinks worth while after thought and study.

He does what he thinks is right regardless of policy. He has never courted popularity, but his integrity has been recognized by the community again and again. Besides the school board, he has been a member of the city council, and for 25 years served on the city library board.

A former superintendent of Cloquet, who has had over 40 years of experience with school boards, places Mr. Leach at the head of the list of all the board members that he has ever known. In 1919, a new grade school was erected in Cloquet, dedicated to him, and named the L. F. Leach School in his honor.

Mr. Leach was born in Massachusetts 78 years ago, but spent his childhood and early manhood in Wisconsin. Before coming to Cloquet, he had served ten years on the school board at Lowry, Wisconsin.

JOSEPH C. MARTIN

**President of the Board of Education,
Laredo, Texas**

Joseph C. Martin was born on October 30, 1886, in Laredo, a son of Raymond Martin and Tirza (Garcia) Martin. His family is one of the oldest in that section of the Lone Star State,



MR. JOSEPH C. MARTIN
President, Board of Education,
Laredo, Texas.

having immigrated from France when Texas was still a Republic. His father, therefore, grew up in this border city during exciting times. Laredo, the natural gateway to Mexico, was perhaps the most disturbed of all the border towns in those days. Yet, by fair dealing and indomitable courage, the elder Martin won for himself a place in the community of which his children are justly proud. For over fifty years he was a leader in community affairs, merchant, stockman, and banker of considerable means and ability. His sons have become the exemplification of their father's devotion to the community. One son, Albert, is serving his fourth term as mayor of the city, another, John M., is county commissioner, while Joseph C. Martin

(Concluded on Page 60)

The LAW and School Property

Daniel R. Hodgdon Esq., New York, N. Y.

School Officials Hold a Qualified Title to School Property. The directors, board of school control, or other proper school authorities usually have a qualified title to, and possession of, all school property.¹ In interpreting the statute in Indiana the courts have held that the trustees in each school district have the charge and possession of the district schoolhouse in their district,² and that a township trustee has control of, and supervision over, the school property in his township.³

The possession and control conferred upon boards of school control or other officers do not confer upon them that absolute dominion which a private individual may exercise over the premises of which he is the exclusive and fee-simple owner.⁴ The public, including all citizens within the district, have some rights in the schoolhouse property and all those intended to be benefited by the purposes to which the school property is devoted have certain rights in the school premises, among which is the right of entry at proper times and for proper purposes.⁴

Control of School Property Obtained by Subscription. If a schoolhouse is built for the district by private subscription of the citizens and the mayor and council, a question naturally arises as to whom the control and possession of the school belongs. The court holds that the control and possession of such a schoolhouse vest in the mayor and council if the statute authorizes them to levy and collect taxes for the purpose of establishing and maintaining schools and gives them power to employ teachers and make rules for the government of the public schools. This is true even though no tax was raised for the construction of the school, but the school was entirely constructed by private subscriptions. The subscribing patrons who gave money for the school will have no voice in any matters concerning the school property or selection or retention of teachers. It makes no difference whether the property was owned jointly by the subscribers or dedicated to the public for school use.⁵ Such judgment would scarcely seem sound unless the school building had actually been dedicated to the public and thereby had been given into the possession of the mayor and council.

Teachers, Principals, and School Boards Protect Property

Power to Protect School Property. Regardless of any right the public may have in school property, however, the right of control and possession of such property by boards of school control give the school authorities the right to protect themselves and guard their schools against disturbances and annoyances which would interfere with the successful operation of the school or the unhampered prosecution of the purposes for which public schools are established.⁶

In ordinary cases the teacher or principal has the power of preserving order outside of a schoolhouse while the school is in session. In extraordinary cases the school superintendent or other proper board or officer may furnish the teacher or principal with such assistance as is necessary and reasonable to preserve order. The keeping of order is a subordinate matter and does not require a vote of the board to em-

ploy assistance to maintain order in and about a public-school building.⁷

School officials also have the right to exclude from the school grounds and buildings any person who enters the premises for the purpose of disturbing the peace or interfering with the legitimate exercises of the school. They cannot, however, impose individual restrictions or make discriminations by excluding some individuals as a personal matter from public exhibitions or exercises to which all the public are invited.⁸

In Vermont the court held that a prudential committee of a school district has no exclusive control of a schoolhouse nor can any control or possession be implied from the general powers and duties granted to them. The control of a schoolhouse in a district is in the district itself. A prudential committee of a school district may have the right to occupy a schoolhouse when school is in session.⁹

School Boards as Trustees

Trust Property. A different rule obtains in respect to trust property. A school board given by statute the power to take charge of, manage, and control the school property of the district, does not vest such board with the control of property which has been dedicated by individuals to the uses and purposes of certain well-defined trusts, even if the property is used as school property. If the trustees appointed by the owners are properly carrying out the trust, the mere advancement of a small sum of money from the school fund to be used together with the donor's money for the purpose of erecting a building on the land conveyed in trust to be used in part for school purposes does not give the board the right to take charge of and control the property. This is also true if the building may, at some future time, be used as a public schoolhouse.¹⁰

This rule is applicable when certain sums of money are advanced by the board of school control, said sums to be paid back. It is also true if the entire property will in time be used for public-school purposes. The statute cannot apply to such property if the possession and control is in the trustees appointed by the donor.

Power to Insure School Property. Although school boards may not be given statutory power to insure the property under their care for school use against loss by fire or against destruction by the elements, the power to do so seems to be such as would be necessarily implied from the general powers which a board of school control possesses to manage and control school property. The court has said that under a statutory provision placing upon the trustees the duty of caring for and managing the school property the board of school control has implied authority in the exercise of its discretion to make reasonable expenditures from school revenue for procuring insurance on school property against fire.¹¹

Where there is no legislation to the contrary, a school board has the implied power to insure a building in the process of construction and embody in the contract a provision for such insurance.¹²

Mutual Insurance of School Property

Under a statute which authorizes a school board to insure school property the board may

insure school property in a mutual, coöperative, or assessment association where no fixed premium is charged, but the losses are prorated among the members. On this subject the court held:

"Included in these powers by implication, it would seem that the board of education is authorized to contract for insurance with any insurance corporation which the public policy of the state has by statute authorized to do an insurance business of the character of insuring public-school buildings against fire and other casualties, unless there is a statute which by express provisions of its articles of incorporation is such that the nature of the contract which it can enter into is one which the board of education cannot for some valid reason effect, and is therefore necessarily excluded as an insurer."¹³

When Insurance in Mutual Associations is Illegal. A constitutional or statutory provision may make insurance impossible and illegal in a mutual association or coöperative association. A provision in a constitution which provides that no school district shall "lend or pledge the credit or faith thereof directly or indirectly, in any manner, to, or in aid of, any individual, association, or incorporation, for any amount or for any purpose whatever, or become responsible for any debt, contract, or liability of any individual association or corporation" makes insurance in mutual associations illegal.¹⁴

In a state where such a constitutional provision exists, a school board has no power to insure school property with a mutual insurance company so as to incur unlimited liability, and if a schoolhouse so insured burns, the school district cannot collect the insurance. The court said: "To permit a school district to become a member of a county mutual insurance company would be indirectly to sanction the use of public funds raised by taxation for a private as distinguished from a public purpose."¹⁵

Whether school boards should insure property for less than the real value of the property is a question which has not been adjudicated by the courts. Shall a school board insure school property for the original cost or for an amount equal to the replacement value if the property value has increased?

It would seem that boards of education under the implied authority to take proper care of school property and to protect it against waste or loss by destruction should keep property protected by an insurance which will replace the structure lost or destroyed by fire, cyclones, floods, or other elements of destruction in order that the voters and taxpayers may not be forced to rebuild a structure at any loss or at least without substantial loss.

Municipal Police Powers and Schools

Police Power. There are two distinct points of view in regard to police power of municipal corporations over school buildings within their limits. One point of view holds that it would seem that the regulations of a municipal corporation made for the protection of the lives, health, and comfort of persons, and a protection of property, must of necessity apply to school buildings within its boundaries unless they conflict with some general law, or the legislature has expressly delegated the exclusive

¹Hughes v. Goodell, 3 Pittsb. (Pa.) 264.

²Culver v. Smart, 1 Ind. 65; Ind. Rev. St. (1843).

³Batterly v. Lee, 37 Ind. App. 139, 73 N. E. 921.

⁴Hughes v. Goodell, supra.

⁵Patterson v. Butler, 83 Ga. 606, 11 S. E. 399.

⁶Hughes v. Goodell, supra.

⁷Huse v. Lowell, 10 Allen (Mass.) 149.

⁸Hughes v. Goodell, supra.

⁹Chaplin v. Hill, 24 Vt. 528.

¹⁰Swadley v. Haynes (Tenn. Ch. App. 1897), 41 S. W. 1066.

¹¹Clark School Township v. Home Insurance and Trust Co., 20 Ind. App. 543, 51 N. E. 107.

¹²Hagan Lumber Co. v. Duryea School District, 277 Pa. 345, 121 Atl. 107.

¹³Dalzell v. Bourbon County Board of Education, 193 Ky. 171, 235 S. W. 360.

¹⁴School District No. 8 v. Twin Falls County Mutual Fire Insurance, 30 Idaho 400, 164 Pac. 1174.

¹⁵School District No. 8 v. Twin Falls County Mutual Fire Insurance, supra.

The Superintendent and Creative Supervision

Worth McClure, Superintendent of Schools, Seattle, Washington

The principal of the modern school is charged with the educational welfare of every child under his care. His is the responsibility to see that all the resources and opportunities of his school and the school system are effectively utilized for the service of his pupils, that high standards of instruction are maintained in all departments, that teachers are inspired and assisted to grow in service, that the school is so organized and managed as to facilitate child growth and development, that routine matters and reports relating to the school itself and the system at large are expeditiously handled, that student activities are administered in the interest of educational value and not for revenue only, that community understanding of educational purposes and problems is advanced to the point where parents are enabled to co-operate in child training with good results as well as good intentions.

As the administrative head of the school, the principal is the direct line representative of the superintendent and board of education in the local district. For the assistance of the principal in serving his pupils, certain technical advisers, frequently known as supervisors or directors, are attached to the superintendent's staff. Theirs is the responsibility to see that respective subjects genuinely contribute to the enrichment of child life, that the schools keep abreast of the best in educational development in their respective fields, that the need of teachers and principals for expert assistance in solving instructional problems of a technical character is effectively met.

The supervisor, as a member of the central staff attached directly to the superintendent, is frequently without administrative authority. As adviser to the teaching staff, his function is instruction. His value to the system depends largely upon the extent to which he succeeds in having principals and teachers recognize the value of his services and call for them when needed.

It will be seen that the responsibilities of these officers are defined with some clearness. The field of each is quite distinct from that of the other, and yet it is also apparent that only as the two work co-operatively together are the optimum results obtainable.

The superintendent's responsibility, in turn, is to see that there is this articulation of effort, and that the creative ability of both principals and supervisors is released for the benefit of the whole system. The superintendent finds every problem of a general character to be an opportunity for capitalizing creative ability.

Proper Utilization of Building Equipment

That teachers as a group require advice and assistance in the proper use of modern school-building equipment should be remembered by school administrators. For this reason attention to their proper instruction pays manifold dividends. Instruction of this kind, instituted by the Seattle Board of Directors in September, 1931, produced immediate results in improved lighting, heating, and ventilating of classrooms and in utilization of special room equipment by teachers. A reduction of 11 per cent for 1931-32 in the amount spent for electric lighting, as compared with the previous year, is, no doubt, directly attributable to this instruction. Even more important than this perhaps was the psychological effect of this series of meetings which served to inaugurate a petty economy campaign which, with larger economies that were found to be feasible, enabled the board without reducing salaries and wages to com-

plete the fiscal year 1931-32 with current expenditures some \$321,000 less than budgeted.

The plan approved by the school board was a simple one. It may be summarized as follows:

1. Preparation of brief instruction sheets by the director of physical education in conference with the school architect, the superintendent of buildings and grounds, the school medical inspector, and the superintendent of schools.

2. Presentation of the instruction sheets and the plan to be carried out to the principals in a stated principals' meeting.

3. Scheduling of a special faculty meeting by each principal within a short time after the school year opened, at which a member of the physical-education staff, with the principal and custodian present, presented the contents of the instruction sheet and left a copy for each teacher.

Results Quickly Achieved

At each faculty meeting the customary procedure combined actual demonstration with instruction. In the matter of lighting, for example, after the principle of the divided window shade had been explained, the supervisor moved over to the windows and illustrated by suitable adjustments of the shades the various points he had made. The greater efficiency of lighting from the upper half of the window and the disastrous effect of too much light from the front of the room were thus made apparent to every teacher. What has been said of lighting applies also to other points covered by the sheet. The group was conducted from room to room as suitable explanation and demonstration required. Both during and at the conclusion of the conference, opportunity was offered for questioning in which principals were prepared to lead.

The results of these conferences were apparent from the beginning. Visits to schools by the superintendent's staff revealed window shades universally adjusted so as to utilize the natural light to the utmost. Seating conditions were improved. Specialized furniture and built-in equipment were being employed for the purpose for which they had been designed. Custodians reported greatly increased co-operation with teachers in the matters of heating and ventilating. Most convincing of all was the appreciation expressed by the teachers themselves of the assistance that had been given them in utilizing equipment effectively. This is not at all surprising.

While the training of the average teacher has generally included theoretical courses in school hygiene, the instruction has usually been given in an academic fashion at a time when lack of experiential background gave it little meaning. For this reason the demonstration feature of the conference was universally commended by the teachers.

The instruction sheet used is quoted herewith for illustrative purposes.

SEATTLE PUBLIC SCHOOLS SCHOOL HYGIENE BULLETIN

This bulletin is the outcome of a conference called by Superintendent McClure, including Mr. Naramore, Mr. Lennon, and members of the Physical-Education Department. It is issued to teachers to assist them in their efforts (1) to make a healthful environment for their pupils and (2) to conserve school funds.

I. Lighting

1. *Best Light.* The light from the upper half of the windows reaches the dark side of the room. Use this light whenever practicable. Light from the left rear is preferable to that from the left front. Glare on desks or blackboards may sometimes be remedied by a readjustment of window shades. Careful handling will add materially to the life of the shades.

2. *Artificial Lights.* Only rarely do the lights nearest the windows need to be used.

3. *Care of Special Cases.* Pupils with poor vision should be seated for best light near the front of the room, in rows 2 and 3, counting from the windows. They should be provided, as far as possible, with books printed in large, clear type of unglazed paper. This might be made a general rule.

4. *Other aids to the conservation of eyesight:* All writing on the blackboard should be large and clear enough to be easily legible from all parts of the room. Pupils are inclined to shorten the best reading distance, which is 10 to 14 inches for normal vision. Pupils should be trained to select a good light, to hold a good reading posture, to shift seats to avoid glare; in general, to avoid strain and fatigue of the eyes. A teacher or a pupil addressing a class should stand away from the windows.

II. Heating and Ventilating

1. *Temperature.* "The most important factor in ventilation is temperature." A high temperature is more destructive of health than impure air. Sixty-eight degrees is the standard for Seattle schools. As a check on your room have a monitor keep a record of thermostat-readings for a week. If the average is above 68 to 70 degrees, inform the custodian. While pupils do best in a temperature of 68 degrees or less, teachers may find this too cold unless they dress a little more warmly than the children and keep their physical condition up to par with active outdoor exercise. The teacher who stands much of the time near the radiator is not a good judge of temperature.

2. *Opening Windows.* In schools with the fan system of ventilation windows should not be opened nor doors kept open except for two periods during the day, and only after an agreement has been made with the custodian as to the time of opening.

- a) *Traditional Grade Schools.* At the morning physical exercise period and at the afternoon recess.

- b) *Platoon Schools.* Between the second and third periods and between the fifth and sixth periods.

- c) *Junior and Senior High Schools.* Between the second and third periods and between the fourth and fifth periods.

It should be understood that it takes time, effort, and fuel to raise the temperature of the building to the required degree after an open-window period.

3. *Miscellaneous.* It is not economy to leave outside doors open. A desk or even a wastebasket placed against the foul-air vent may interfere materially with ventilation. Stuffy smells may be problems of personal hygiene rather than of ventilation.

III. Seating

1. The custodian may adjust seats on occasion.
2. The height of the seat should allow the child to rest its feet squarely on the floor.

3. The height of the desk should allow the child when writing to sit erect in an easy position, shoulders neither hunched up nor drooping.

Coöperative Supervision of Specialized Activities

While principals in recent years have come to accept quite generally their responsibility for the quality of teaching in the academic subjects, they still feel some hesitation in doing so for those subjects and activities which are of a specialized character involving the technical knowledge of the specialist. This attitude on the part of principals is not altogether unreasonable. They sense the fact that their assistance may not be desired by a teacher who has adequate technical training. Moreover, the policy of school administrations for many years has been to encourage the principal to shift responsibility for specialized fields to the shoulders of special supervisors attached to the superintendent's staff. Added to these considerations is the further fact that even if the principal were technically proficient in every specialized field represented within his school, he would still be unable to meet the demands upon him because of the physical limitation of time alone.

On the other hand, the teacher of a specialized subject or the director of a specialized activity does not always have adequate command of educational principles. While he may be, and often is, a technical expert, he may also be only an average teacher of children. He may indeed be handicapped by intensive specialization to the extent that he is not sensitive to important educational values for boys and girls.

The principal, however, is — or should be — a specialist in child nature. Failure to be sensitive to educational opportunities in the life of the school is a cardinal weakness on his part, so great is his obligation in this regard. He therefore may be expected to see things even in a specialized activity that are possibly not apparent to a technically trained instructor.

Moreover, the principles of learning and growth are fundamental, applying to all subjects alike. The only differences are those which arise in the character of the application of these principles to each subject. Principles underlying a good learning situation are the same, regardless of whether the subject be home economics or mathematics. The evidences of successful or unsuccessful application of these principles, however, to a home-economics activity will naturally be quite different from those evidences which to the discerning observer of a mathematics class reveal success or the lack of it.

Principals Responsible for Supervision

These evidences are susceptible, however, of somewhat clear definition, so that the onlooker who may lack technical training in the subject but who knows educational principles may become reasonably accurate in diagnosis. The principal may thus feel confident in taking over the problems of the specialized fields except those involving technical training.

The tendency in school administration is more and more to hold principals responsible for all supervision and to assign to the special supervisors the rôle of consulting experts to principals, upon whom the latter may call when expert assistance is required. It is very likely that the present economic stringency will tend to increase this tendency through the reduction of central supervisory staffs and consequent transfer of more supervisory duties to principals.

In the school system represented by the writer, economic considerations made it necessary to reduce central supervision by 30 per cent for the year 1932-33. Accordingly, the various supervisory departments were requested in March to prepare a single sheet of standard classroom procedures for the guidance of principals in supervising the subject represented by the department.

During the preparation of the sheets, several meetings were held between the supervisory heads and the superintendent's conference. Immediately prior to the opening of school in September two half days were devoted to discussion of the materials, all principals of elementary, secondary, and special schools, as well as all supervisors, being present. So helpful did the principals consider the contributions of the supervisors to be, that many have requested a repetition of such conferences next year.

Place of Special Supervisor

The result is not intended, of course, to be eventually the complete elimination of special supervisors. There will always be a genuine need for the technically trained specialist to advise in instructional problems of a technical nature. It is believed, however, that there will be a more intelligent and therefore economical utilization of special supervisory assistance by the principals.

An examination of the two sheets which are reproduced here will indicate the general character of all those which have been prepared. Principals understand that the various sheets of "standard procedures" represent considerations with which they may properly deal and whose significance has been made clear to them. Matters of a more technical character or difficult instructional problems which refuse to yield to the means at the principal's command will be referred to the supervisor.

SEATTLE PUBLIC SCHOOLS
STANDARDS OF PROCEDURE
For the Guidance of Principals
HOME ECONOMICS

- General:* Atmosphere and surroundings.
Does the room and teacher's appearance give evidence of home economics ideals?
Is there sufficient light and ventilation?
Has the blackboard a brief outline of the unit's work? Has it today's assignment?
Has the bulletin board an orderly array of newspaper or magazine articles of interest to home-economics students and illustrative of the work going on?
Have the pupils good working posture?
Is the class working quietly with a spirit of interest and happiness?
Are the questions asked well stated, discussions to the point, and conclusions clearly understood by the class as a whole?
Are the opportunities for correlation with the academic subjects being utilized?
Does the teacher demonstrate processes and technique which are new to the pupils?
- Sewing*
Is every pupil at work, no one idly waiting for instruction or for machines?
Is anyone working on another subject?
Does each girl use her thimble when sewing by hand?
Is there class organization for the use of the machines?
Is any girl ripping out work? Why?
Is any girl without materials for her required work?

Why?

Does the teacher have class study and discussion at the beginning of each unit so that the girls understand what problems are to be reviewed, what new problems are to be attacked, and what are the limits of kind of pattern to be selected?

Are the display cases in constant use to show the progress of the classes?

Are there indications that the teacher is adapting the course of study to the needs of her school and community?

Have you examined any of the finished articles? Can you note improvement?

Cooking

Alternate study 1 period, laboratory 2 periods.

Does the class work quietly without unnecessary conversation and handle all equipment with care?

Is the procedure orderly, showing that the pupils understand the successive steps to be taken?

Is there waste of material in classwork that might be avoided by clear instructions?

Are the finished products well flavored and attractive in appearance?

Do the classes figure the cost of recipes used?

Is there a definite effort to teach the relation of food to health?

Are there indications that home-economics teaching is functioning in the lives and homes of the community?

In the upper classes is there indication of effort to teach the choice of food to fit the family income, or to adapt the course of study to fit the school and community?

(Concluded on Page 60)

The Format and Content of School Budgets

C. A. De Young, Northwestern University

Knowledge of school budgets is still on the descriptive level. Hence no definite criteria can be postulated as to what a school budget should contain. The preliminary check list presented here is, therefore, intended as a guide, which may be used by the budget builder in checking the budget before it is put into final form. The check list is not a weighted score card. It does not contain all the items which should go into a genuine school budget. All the items are not minimum essentials. Obviously, the size of the school system and the degree of fiscal independence which it enjoys have a direct bearing on the number and kind of details incorporated in the budget.

The check list contains 18 items on the *format* and 24 on the *content* of the budget. As to the format, it must be stated that these mechanical features are not the heart of the

budget. They are merely technical minutiae, but they are sufficiently important to merit the scrutiny of school administrators and school-board members.

As to content, a careful study of twenty school budgets and of the reports received from 821 schoolmen in 48 states, shows that many budget builders omit such foundation material as, the work of educational program, data on attendance, information on tax rates and assessed valuations, and the painstaking calculation of revenue.¹ "Oh, we have those things in mind," was the remark of one of the superintendents interviewed by the writer. Hazy ideas unexpressed are not comparable to a complete written presentation of crucial budgetary data.

¹De Young, C. A., *Budgetary Practices in Public School Administration* (Evanston, Ill.: School of Education, Northwestern University, 1932), pp. 106-118.

Preliminary Check List of School Budget Format and Content

I. CONTENT

General

Check

1. Definition of terms
2. Reasons for increases in amounts
3. Work program evident
4. Long-term planning evident
5. Summary of expenditures and receipts on some page

RECEIPTS

6. Estimates of receipts
7. Receipts in some detail
8. Past receipts shown for at least one year
9. Decreases or increases clearly indicated
10. Assessed valuation
11. Per capita or per pupil assessed, valuation
12. Tax rate required
13. Tax rate compared with former year or years

EXPENDITURES

14. Estimate of expenditures
15. Expenditures in detail
16. Past expenditures shown for at least one year
17. Decrease or increase clearly indicated
18. Standard character classification used
19. Classification according to organization unit
20. Table of bonded indebtedness for years

ATTENDANCE AND UNIT COSTS

21. Pupil attendance compared by years
22. Prediction of probable attendance

23. Decrease or increase in attendance shown
24. Recognition that expenditures are related to unit costs
- Total checks — CONTENT

II. FORMAT

General

Check

1. Size easily handled
2. Typed, mimeographed, or printed
3. Bound in protective cover
4. Pages numbered
5. Cross page references
6. Table of contents
7. Index
8. Accounts coded
9. Footnotes, references

Authority

10. Name of district
11. Name of person responsible for preparation

Dates

12. Exact date of beginning of fiscal year
13. Fiscal year for which budget is prepared
14. Date on which budget was approved
15. Date on which budget was prepared

Miscellaneous

16. Letter of transmittal
17. Supplementary material
18. Figures mostly in dollars and cents or evidence that estimates are carefully made
- Total checks — FORMAT
- GRAND TOTAL CHECKS

The School-Life Expectancy of Failures in the Elementary Grades

David T. Blose, Assistant Statistician, and David Segel, Specialist in Tests and Measurements,
U. S. Office of Education

This study presents a method of calculating the elementary-school-life expectancy of pupils retarded in a grade and the results of the application of such methods on a representative sample of white pupils in the United States. The applications of a knowledge of the school-life expectancy of failing elementary-school pupils will be mentioned only briefly in this article. It is believed that the significance of such information to the guidance of pupils and the planning of the elementary-school curriculum is great.

The basic data which needs to be gathered for this problem is obtained when a grade-progress table is being constructed. A grade-progress table differs from an age-grade table in that "years spent in school" is used instead of age. This allows the retardation and acceleration to be shown in relation to the actual progress of children. The age-grade table assumes that children of certain ages should be in certain grades. We know that this assumption is a very poor one because states and cities differ considerably in their practices in regard to the age of children admitted to school. Because of this and other factors the age-grade distribution cannot be used for such purposes as are set forth in this study. We present here a grade-progress table constructed from data collected on 116,651 white pupils in eight-year elementary schools in the spring of 1927. This table and other tables set up from the same data are given as Tables I, II, and III.

These tables were obtained from the answers in a questionnaire form filled out by elementary schools. This questionnaire called for information on individual pupils in regard to present grade by half years, number of years of school attendance counting the present year, number of years absence from school since entering, half grades repeated once, half grades repeated twice, and half grades repeated three or more times.

In this study it is assumed that the conditions producing a certain amount of retardation in a grade is constant one year after another. This assumption is, of course, true only in part. Differences in birth rates, school practice, economic pressure, etc., will change the pattern of retardation and acceleration over a period of years.

In order to compare the progress of children who fail in a grade with the progress of children in general it is necessary to know the amount of failure which takes place in each school grade. These failure figures may be obtained by indirect methods from Tables II and III. Table III has been chosen for use in this study rather than a combination of Tables II and III because the meaning of the result will be a little clearer. Table II gives the repetitions for fall terms and Table III for spring semesters. To get an average figure for the two semesters together would be somewhat confusing since a large number of the pupils repeating one semester also repeated the other. It is difficult

to state clearly just what this figure would mean. Taking Table III by itself one is concerned with pupils failing the spring semester. Of course, many of these pupils also failed the fall semester in the same grade. Since many of these schools have annual promotions, the data in Table III is the closest approximation to the retardation status on an annual basis which can be used in building up school-life-expectancy tables.

In Table III the number of repetitions of the work of the first grade, spring semester by pupils now in the first grade, spring semester is shown to be 3,809. This figure is not the total number of failures chargeable to the first grade, spring semester. Failures of this work by pupils who dropped out to repeat the work in a private school or who died and those who dropped out for other reasons, so that they did not return to school, are not included. Also the failures which will occur at the end of the year are not included. Similarly it may be said that the repetitions reported in the third grade by pupils in the second grade (1,882), that the repetitions reported in the third grade by pupils in the third grade (1,538), etc., do not include all the failures in those grades.

The method developed to furnish a reasonable estimate of the amount of failure in each grade was as follows: To find the number of failures in the first grade a smooth curve was drawn from the points plotted to represent the repetitions of first-grade work reported by

Years in School Including the Present Year	1	2	3	4	5	6	7	8	Total
1	16,857	289							17,154
2	2,301	13,140	576	29	4				16,050
3	235	3,045	11,911	1,007	53	5	1	1	16,258
4	47	463	2,954	10,432	1,189	86	10	3	15,204
5	5	92	659	3,126	9,095	1,429	123	9	14,538
6		16	172	842	3,247	8,742	1,863	126	14,408
7		6	38	243	943	3,142	6,542	1,274	12,188
8			10	49	284	936	2,158	4,642	8,079
9			6	14	57	231	464	1,424	2,216
10				1	7	38	110	318	474
11					3	8	15	49	75
12						1	1	4	6
13								1	1
Totals	19,445	17,072	16,334	15,743	14,862	14,618	10,707	7,851	116,651

This table is to be read as follows: In the first grade there were 16,857 pupils who had been in school one year or one-half year; 2,301 pupils who had been in school one and one-half or two years; 235 pupils who had been in school two and one-half or three years; etc. The other columns may be read similarly.

	1	2	3	4	5	6	7	8
Repetitions of 1st Grade Work	3,809	3,498	2,450	2,064	1,751	1,405	749	525
" of 2nd "	1/22	1,882	1,909	1,581	1,274	951	513	320
" of 3rd "		1/21	1,538	1,698	1,343	1,072	499	305
" of 4th "			1/13	1,561	1,623	1,235	643	316
" of 5th "				1/38	1,368	1,366	710	401
" of 6th "					1/4	1,120	737	353
" of 7th "						1/3	688	403
" of 8th "							1/2	363

1/ Same as note 1, Table II.

This table is to be read as follows: There were 3,809 pupils in the first grade reported as having repeated the spring semester of the first grade; 3,498 pupils in the second grade reported as having repeated the spring semester of the first grade; etc.

	1	2	3	4	5	6	7	8
Repetitions of 1st grade work	2,831	3,059	2,265	1,703	1,502	1,231	723	452
" of 2nd "	1/10	1,269	1,679	1,441	1,202	923	482	281
" of 3rd "		1/16	1,185	1,707	1,352	983	508	311
" of 4th "			1/6	1,223	1,567	1,214	610	313
" of 5th "				1/12	1,064	1,196	617	331
" of 6th "					1/2	794	758	317
" of 7th "							562	392
" of 8th "							1/3	196

1/The inclusion of these figures would give a double retardation to certain pupils. Most of these pupils were displaced by the school in which they were enrolled. The effect is not a true retardation. These figures are omitted from consideration.

This table is to be read as follows: There were 2,831 pupils in the first grade reported as having repeated the fall semester of the first grade; 3,059 pupils in the second grade reported as having repeated the fall semester of the first grade; etc.

	1	2	3	4	5	6	7	8
Repetitions of 1st Grade Work	4,050	3,498	2,450	2,064	1,751	1,405	749	525
" of 2nd "		2,245	1,909	1,581	1,274	951	513	320
" of 3rd "			2,060	1,698	1,343	1,072	499	305
" of 4th "				2,005	1,623	1,235	643	316
" of 5th "					1,820	1,366	710	401
" of 6th "						1,135	737	353
" of 7th "							800	403
" of 8th "								465

1/The first figure in each row is the number of failures or the number of potential repetitions.

This table is to be read as follows: There were 4,050 estimated failures in the spring semester of the first grade; 3,498 failures in the spring semester of the first grade surviving until the spring semester of the second grade; 2,450 failures in the spring semester of the first grade surviving until the spring semester of the third grade; etc. Reading the second row: There were 2,245 estimated failures in the spring semester second grade; 1,909 failures in the spring semester of the second grade surviving until the spring semester of the third grade; 1,581 failures in the spring semester of the second grade surviving until the spring semester of the fourth grade; etc.

TABLE I. The Acceleration-Retardation record of 116,651 pupils separated according to progress and grade.

TABLE III. The repetitions during spring terms by grades of the same groups of pupils.

TABLE II. The number of repetitions during the fall terms by grades of the children listed in Table I.

TABLE IV. The number of repetitions during spring terms by grades of the same groups of pupils.

Chance (per cent) of attaining:	Grade in which Pupils Occur						
	1	2	3	4	5	6	7
Grade 2	.85	.82					
3	.60	.61	.85	.86			
4	.52	.61	.70	.82	.86		
5	.43	.77	.57	.67	.65	.81	.95
6	.35	.73	.42	.66	.52	.62	.91
7	.18	.55	.23	.61	.24	.66	.32
8	.13	.40	.14	.46	.15	.44	.16

1/These failing rates were established in the spring semester of each year.
2/The figures in italics is the normal expectancy rate.

This table is to be read as follows: Of pupils failing in the first grade 85 % survive until the spring semester of the second grade; 60 % survive until the spring semester of the third grade; etc., until the 13 % figure is reached in the eighth grade as the survival rate of failing first graders. Similarly in the second column it is noted that of the pupils failing in the second grade 85 % survive to the spring semester of the third grade; 70 % survive to the spring semester of the fourth grade; etc. The per cents given in italics indicate the normal expectancy of survival for the same grades. See the text for the limitations of this table.

TABLE V. The life expectancy of average and failing pupils in the elementary schools. The percentages are based throughout upon the studies of 116,651 pupils discussed in the article.

pupils in the second, third, fourth, fifth, sixth, seventh, and eighth grades, respectively. This curve was extended back a grade interval to show the estimated number of potential retardations or failure in the first grade. This method assumes that there is a fairly definite relationship existing between the number of failures surviving through the grades. An examination of the data will bear out the reasonableness of this assumption. In a similar manner smooth curves to estimate the failures in the other grades were drawn. All these curves are shown on the one figure. Except for the first-grade curve all are straight. The curve indicating the failures in the seventh grade was constructed by drawing a line parallel to the sixth-grade line through the eighth-grade retardation point.

From the curves in the figure the estimated potential repetitions or failures may be read along the last grade line on the left as follows:

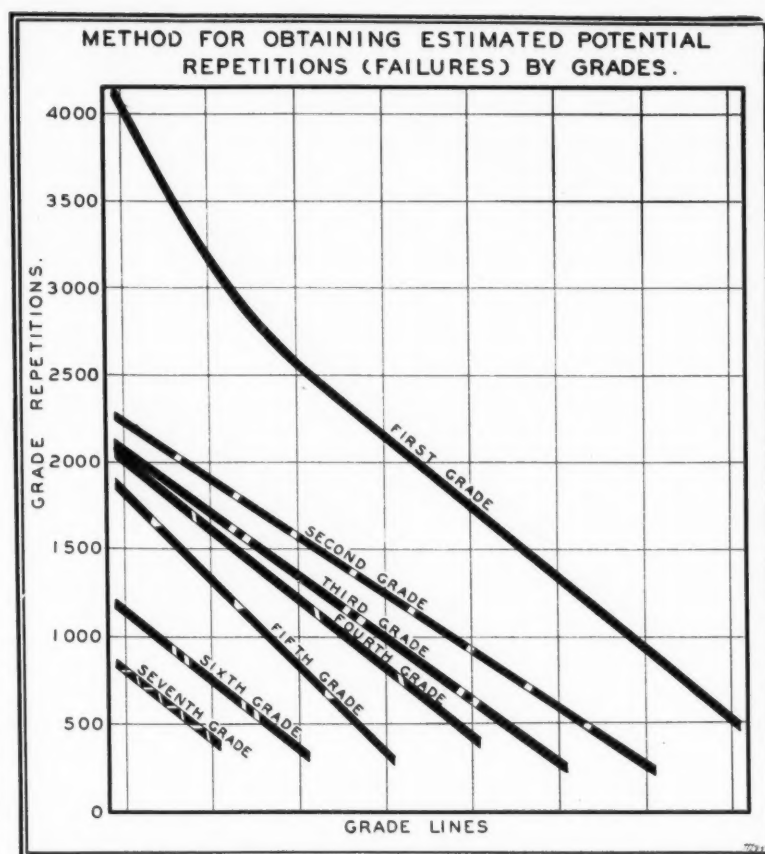
Grade	Failures	Grade	Failures
1	4,050	5	1,820
2	2,245	6	1,135
3	2,060	7	800
4	2,005	8	465

The failure figure for the eighth grade (465) is estimated from a knowledge of the differences between the sixth- and seventh-grade estimated failures. This difference is 335. This difference subtracted from 800 leaves a remainder of 465. Substituting these figures in Table III for the figures for first-grade repetition by pupils in the first grade, second-grade repetition by pupils in the second grade, etc., in the spring semester considered, Table IV is obtained.

By dividing the number of repetitions of first-grade work reported in the second grade (3,498) by the potential retardation in the first grade (4,050) the per cent of pupils failing in the spring semester of the first grade who eventually reach the spring semester of the second grade is obtained. The quotient here is 86 per cent. Similarly, it will be found that 13

A METHOD FOR ESTIMATING POTENTIAL FAILURES BY GRADES

In this figure the smooth curves have been drawn from the data in Table III. The points at which these curves intersect the last vertical (grade) line to the left give the estimated repetitions (failures) in each of the first seven grades.



per cent of those failing in the first grade will reach the eighth grade. All such per cents, together with the expectancy for pupils in general, are given in Table V. The normal or general expectancy per cents were obtained from the totals by grades in Table I. The per cents printed in regular type gives the chances of survival as far as the grade indicated of pupils failing in a certain grade in the spring semester. The per cents given in italics indicate the normal expectancy of survival for the grades indicated. All the per cents of Table V probably are influenced to a minor degree by the lessening enrollment from the first to the eighth grade due to death and permanent disablement.

The results portrayed in this table show that the chances of failing pupils to continue in school is small. It is to be noted that no causal relationship between repetition or failure and drop-out from school is claimed. These results show that there is a high relationship existing between these two factors. These results show that the possibility in this respect is greater than we have been lead to expect. It is probable that there is a variation in the survival rate of pupils in different cities. This could be caused by variations in school practice and philosophy. By setting up grade-progress tables and calculating the life expectancy of pupils by the methods here described, school systems can investigate for themselves the effect of certain policies of promotion.

tional standpoint have offered these arguments:

1. Because of the difficulties involved in the dismissal procedure, many undesirable teachers are retained on tenure.

2. Supervision is made difficult. Teachers protected by tenure are less progressive and less willing to cooperate with school officials.

3. Dismissal is increased because many boards of education are reluctant to place teachers on tenure. As a result many teachers are unwilling transients.

The question upon which the author has tried to secure an answer is the effect of tenure on the rate of dismissals. While the comparisons made deal with New Jersey and Connecticut the author says: "There is evidence that tenure does not decrease dismissal as a factor in total teacher turnover, although voluntary turnover is decreased."

In summarizing the several statements made in his book, the author frankly admits that repeated attempts to repeal the tenure law had been made. These, however, had been invariably met with the arguments that the law had been a benefit rather than a harm to school interests of the state. His summary embodies the following:

"Opposition to the tenure law has not entirely subsided, as is evidenced by a large percentage of adverse criticisms of tenure expressed by teachers, school administrators, and presidents of boards of education. School-board members especially are strong in their condemnation of certain features of the tenure law, the majority being opposed to it. This attitude may be partly ascribed to prejudice and to reluctance to relinquish full control over the staff of the schools, but much of it may be due to professional negligence on the part of those protected by law. Many board members, as well as superintendents, feel that it is practically impossible to remove the unsatisfactory teacher. This seems to constitute the most serious problem resulting from the tenure law. The statute is clearly at fault in this instance."

In his conclusions, Professor Holmstadt, among other things, says: "One of the problems of tenure that requires further research before an adequate solution can be offered is concerned with the probationary period. In the first place, the probationary period works a definite hardship on the beginning teacher. Furthermore, the object of the tenure law is defeated by the practice of boards of education in dismissing teachers to avoid placing them on tenure. Many of the benefits of tenure could be secured without the probationary period, provided the annual contract were eliminated and the difficulty of discharging incompetent teachers were corrected. This could be accomplished in part, at least, by limiting the right of appeal, and by placing the responsibility for selection and dismissal in the hands of competent school executives."

Teacher Tenure in New Jersey

A study of the effects of the teacher-tenure law in New Jersey has recently been made by Prof. Raleigh W. Holmstadt, of Teachers College, Columbia University. He presents his observations and conclusions in book form. The subject is a timely one. Teacher-tenure laws have been enacted in several states, which have not proved entirely acceptable to local school authorities. At a time when financial pressure prompts boards of education to examine more closely budgets and teaching personnel, the question of dismissals also comes under closer scrutiny.

The New Jersey teacher-tenure law was enacted in 1909. It marked the legislative beginning, which resulted in the passage of teacher-tenure laws in 14 states and the District of Columbia. In addition,

42 cities in 22 states have teacher-tenure laws which are observed.

The author summarizes the two sides of the tenure question in the following language:

1. Tenure protects the teacher from petty political and social attacks.

2. The teacher is relieved of anxiety over the possibility of failure to secure reelection.

3. The teaching staff will be stabilized and teacher turnover decreased.

4. A higher quality of teaching personnel will be secured because of greater care in selection.

5. Teachers will be encouraged to maintain high standards of service and professional growth in order to secure the protection afforded by tenure.

Those who have opposed tenure from an educa-

The Control of School-Building Depreciation

W. Fred Dolke, Jr., Architect and Engineer, Chicago, Illinois

Just as the plain man of the street faces inevitable "death and taxes," so does a board of education find itself saddled with the twin specters of "obsolescence and depreciation." Man can do nothing to prevent eventual death; obsolescence, like death, marches slowly and unfalteringly on its way. But man can, if he will, exercise some control over taxes; so can depreciation be foreseen, opposed, controlled. The question is, How?

Let's start this discussion by getting a clear idea of the difference between obsolescence and depreciation. Obsolescence is that which causes the useful and profitable life of anything to be shorter than its possible physical existence. It is a "going out of use or style," the price of progress. Depreciation means a gradual reduction in value due to physical deterioration, exhaustion, wear, and tear. Obsolescence arises from causes outside the thing itself as distinguished from the physical changes which constitute deterioration. Obsolescence is essentially economic — depreciation, physical.

How to Control Depreciation

That depreciation occurs in the physical plant of a school is a fact regarding which there can be little argument. That something must be done about it — preventives and repairs generally being cheaper than replacements — is not denied by thoughtful, experienced people. All this being true, what is the best way to combat and control depreciation?

Anyone with a relatively long experience in the building industry can say without much fear of reasonable denial that the maintenance of the majority of our public buildings is not an organized, systematic routine operation, properly and competently supervised.

Roofs are remembered when they begin to leak — likewise flashings and gutters. No one notices the ravages of weather and frost in a parapet wall until it is ready to fall into the street. Exterior doors warp, the resultant leaks cause drafts and consume tons of fuel, yet no one does anything about it. Windows rattle or stick, stair rails come loose — but why multiply examples?

Now, my thesis is that the usual approach to these problems is wrong. A condition gets so bad someone notices it and registers a complaint. The school board, at its next meeting, is informed of the trouble which must be corrected at once at so much cost. What can the puzzled board do but say, "Go ahead"?

There are several serious objections to this procedure: First, when deterioration has gone too far, major repairs are necessary and these cost real money. Second, quite frequently action is taken without competent advice or proper study made to obtain the right procedure. Maintenance and repair costs are likely to be too high; the expenditures often largely wasted because correct results are not obtained. Third, the board has no definite method for establishing a maintenance budget, or for determining whether maintenance costs are too high.

Operating a Definite Maintenance Program

In contrast to this hit-or-miss procedure, each board can establish a definite maintenance program, based on a periodic and thorough inspection of the building and its equipment by a trained and experienced man. A studied report will bring to light and place on record periodically, each item of actual or threatened depreciation, will discuss methods of repair and prevention, estimate costs, establish a definite program for repairs, call attention to items which

must be watched, and in general put the whole subject of the prevention and cure of depreciation on a definite systematized and controlled basis.

That such a system has satisfactory results can be shown from the experience of the vocational school at Appleton, Wisconsin. Following some major repairs and replacements in 1929, the board acted upon suggestions which I placed before them and entered into a contract for annual inspections and reports. Regarding the results, after three years of experience the board, through its director, Mr. Herb Heilig, has made the following comments:

"We know now that our former methods were haphazard, that many mistakes were made, and that not always did we spend money to the best advantage. The method we are now pursuing has improved our maintenance as our building is now in the best condition we have experienced for years. Moreover, our expenditures for maintenance are less, and we are conserving our funds just so much. . . . A further advantage is our ability to reduce to routine procedure, to be carried out by our own staff, those many small things which are so often neglected and which, when neglected, result in large repair bills. . . . We are satisfied that once this method has been enjoyed by school authorities, they will never return voluntarily to haphazard methods."

Inspections by Trained Men

I have previously asserted that such inspections should be made "by a trained and experienced man." Obviously, if a job is going to be done right, it must be carried out by a man who knows what he is doing, and how to do it. A single school, or a small system, cannot afford to maintain on its staff a highly qualified man; to get proper results it must look to an outside source. The larger systems generally have a maintenance man; but how many of them make a *thorough, systematic, periodic* inspection of the school properties, prepare a definite studied report, with reliable cost estimates, ready for intelligent action by the board? Most of them do not, because the matter has never been presented to them from this particular viewpoint. Also, most of them cannot — and I say this advisedly, because these men are usually very competent, conscientious, and practical in the handling of their daily problems — perform the task of a thorough maintenance inspection, and report with the most advantageous results for the quite fundamental reason that they are by training, experience, and natural inclination of the practical performing type, rather than the technical analyzing type which is so much better adapted to perform the exacting detailed inspection routine, to study the problems, and to prepare a report.

There are two other valid reasons, in my opinion, for the performance of this specialized service by an agency outside the school staff. First, as can be observed in many industrial and public organizations, it is not human nature to keep strictly and for all time to the full intent of any routine operation that is set up. Because of this condition I usually do not, in my professional work, recommend the installation of recording instruments in a steam plant. The records will be used for a while and then everybody proceeds to forget about them. Second, the staff man lives with the school plant and "familiarity breeds contempt." He daily passes by and overlooks things which are glaringly apparent and informative to an outside man.

On the other hand, the outside man comes fresh to the school after a considerable absence.

He looks at things from a different viewpoint. He is anxious to ferret out everything he can find and propose a method of correction. His reputation and continued employment depend upon his thoroughness, his ingenuity, and his ability to reduce maintenance costs.

What type of man should be employed? He should be highly trained in the technical problems of building construction and service equipment, preferably a practicing architect or engineer, who can show that he has had experience in maintenance work and, a most important attribute, is sympathetic to and interested in the problems of maintenance. Success will lie entirely in the hands of the man chosen for the work. I say "preferably a practicing architect or engineer," because such a man has the proper professional attitude toward the work, is in constant touch with building problems, new materials, and methods, and principally because he has nothing to sell except "service."

Cost of Expert Inspection Service

As to cost, experience indicates that this inspection work can be performed in a satisfactory manner, at a relatively low expense. An intelligent architect or engineer will realize that he can utilize the performance of this service to fill in the gaps between other items of work, that it affords contacts which will eventually lead to special consultations or construction projects, and that he will, furthermore, profit personally by the knowledge gained so that he can design better buildings. Therefore, he can and should be willing to accept a most reasonable fee.

Any board can readily put this system into operation by employing some man whose abilities and qualifications are already well known to them, or by selecting a suitable man from a group of applicants.

A contract for services should run a term of years, three or five, with the mutual privilege of cancellation at the end of any year, and should provide for two inspections the first year and one each subsequent year. Definite provision should be made for consulting services regarding problems of plant equipment, arrangement, and stability which are separate from maintenance inspection.

This whole subject of the control of depreciation and the reduction of maintenance costs can be summarized as follows:

1. Depreciation is a fact which cannot be denied. Its effect can be repaired, or it can be foreseen and prevented.
2. Systematic inspection, planning, and budgeting, for preventative maintenance and programing of major repairs, are to be preferred to "hit-or-miss," or "take-them-when-they-come" methods.
3. Certain improvement in maintenance methods and achievements will result from systematic inspection and a program of preventative measures, with corresponding better preservation of facilities and of school funds.
4. The best results will accrue from a specialized service performed periodically and thoroughly by a suitable agency outside the school staff.
5. The small cost of such service will be more than earned in ultimate savings in maintenance expense.
6. The employment of such an agency makes available the many advantages of a continuous and sympathetic consulting service.
7. The school board, the superintendent, and his staff will be released from what is, to them, an irksome duty, enabling them to concentrate more on their specialty — Education.

STANDARDS for Junior-High-School Buildings-Part II

T. C. Holy and W. E. Arnold, Bureau of Educational Research, Ohio State University

In the preceding article¹ a description of the method used in arriving at standards for junior-high-school buildings was given. By submitting tentative standards covering more than one hundred items to a group of competent school-building authorities, it was possible through their criticisms and suggestions, to secure statements which represented as nearly as possible the consensus of opinion of the entire group.

Due to the large number of items studied by the group, it is impossible to present them all in these articles. In the preceding article brief summaries were given of such features as sites, flexibility, expansibility and economy of plan, corridors, academic classrooms and equipment, science laboratories and home-economics laboratories. In this article are presented some of the more interesting parts of the standards for other phases of junior-high-school buildings.

Industrial-Arts Shops

While some kind of shopwork is essential to any real junior-high-school program, the type, size, and equipment of the shops should depend upon the character of the industrial-education program and the size of the particular school. Three common arrangements of shopwork are used among junior high schools:

1. Separate shops for each general type of industrial work in which the pupils are given more or less intensive training. By this arrangement there will be such separate shops as automobile, woodworking, printing, and machine shop.

2. A general shop in which the pupils receive general experience in the various types of industrial work. This shop will contain equipment of various kinds designed to give the pupils varied industrial experience rather than intensive instruction in distinct trades.

3. A combination of the two plans is frequently used through which a general shop is augmented by special shops and the curriculum includes both general and special training.

Shopwork in junior high schools is not usually designed to prepare boys for the various trades but is intended more as a general educative experience. Elaborate and costly equipment is not necessary.

Where special shops are planned they should be correlated. An industrial-arts building or wing should be carefully planned so that there will be as little duplication as possible. It is often economical and satisfactory to arrange one or two recitation and demonstration rooms for the use of all shop classes. Lockers and toilets may also be planned to avoid duplication. It is not necessary to duplicate costly equipment. For example, a wood lathe in one shop may be used when needed for work in other shops.

A wide variety of special shops is found in junior high schools. In every case the shop and equipment should be designed to meet the particular needs of the school. It has, therefore, seemed unwise to attempt a detailed description of every type of shop and equipment. However, as the general shop is receiving considerable attention and is probably the center of industrial-arts work in many junior high schools, we will give here some of the outstanding parts of the standards approved by the group of experts:

¹January, 1933, p. 21.

General Shops

Room: Rooms for general shopwork should contain not less than 1,200 sq. ft. of floor space, nor less than 50 sq. ft. of floor space per pupil. Windows should be of the large-factory type with small panes. Lighting may be from more than one side. Exterior walls should be preferably of glazed brick of light color. All non-bearing interior walls should be of tile, or other easily removed material, to allow as much flexibility as possible in case of future alterations. Floors should be of wood block over concrete, or hard wood over concrete; concrete may be used for the machine and metal-working part of the shop. If the shop is located on the ground floor, all floors should be properly waterproofed. At least one double outer door 8 ft. wide, connecting to a driveway, should be provided. Satisfactory artificial light should be distributed evenly throughout the shop to avoid shadows. Water, gas, and electric outlets should be conveniently arranged. Where shops are by necessity located near classrooms, soundproofing is desirable.

Auxiliary rooms: Storage space should be adequate and arranged in such a manner that there is little loss of time in securing supplies. A toolroom should be centrally located for convenience and proper supervision. It may be inclosed with heavy-wire partitions with window openings for the issuing of supplies, and equipped with suitable racks, bins, and shelves, as the orderly arrangement of tools and supplies is essential. Lumber may be stored in an adjoining room, or on a mezzanine in the shop room. The storage location should be easily accessible for the delivery of lumber from the outside. Racks or pegs of 2-in. iron pipe can be arranged to provide for the orderly storage of lumber of various sizes. There should be adequate space for the storage of incompleting projects. Good heating, lighting, and ventilating facilities should be provided.

Classroom: Space may be provided for recitation and demonstration purposes in the shop itself, or in an adjoining classroom. Suitable tablet-arm chairs or tables, demonstration bench, blackboards, motion picture, or stereopticon facilities should be provided. Physical conditions of the room should be comparable to those of regular classrooms.

Locker room: The locker room should be located either adjoining or in proximity to the shop, and should be equipped with steel lockers, washbowls, and toilet facilities. It should be sanitary, well lighted, and well ventilated.

Instructor's office: In small schools this room may be located in connection with the toolroom, but is preferably a small room connected directly to the shop. In either case it should be well lighted and suitably furnished with desk, chairs, bookcase, filing case, locker, and washbasin.

Finishing room: The finishing room, properly heated, well lighted, and dustproof, should be located next to the shop, and equipped with fireproof cabinet for the storage of paints and oils, shelving, revolving tables, gluing equipment, and brush containers. If paint-spraying equipment is provided, there should be a booth with metal partition, revolving table, and good natural and artificial light.

Equipment: The equipment of the general shop should be adapted to the type of work done. Ordinarily the following should be provided: benches, hand tools, band saw, circular saw, mortiser, planes, lathes, grinders, jointer, vise, drill press, sheet-metal tools, anvils, soldering oven, electric bench, forge, and wiring booth. All power machines should be operated by individual electric motors of suitable horse power. In addition to safety switches on each machine, the motors should be connected with centrally controlled switches which are under the supervision of the instructor. There should be a single main switch controlling all outlets, under the control of the instructor, to be used in case of emergency. All machines should be adequately safeguarded with guards and shields. Automatic suction dust collectors should be provided on all machines where dust of any kind results from operation. Heavy machinery should be provided with suitable foundations, but wherever possible allowance should be made for moving machines in case rearrangement of the shop becomes necessary. Cases, cupboards, racks, bulletin boards, filing cases, bookcases, and blackboard should be provided.

A warning should be given in regard to the location of shops in the school building. In many cases these rooms have been placed too near classrooms, library, or other units where quiet is necessary. The noise emanating from shops may become so disturbing as to interfere greatly with the efficient operation of the school. Sound-deadening material may be used with some effect, but in any case the shops should be located as far as possible from academic units. A separate shop building, or a remote wing, is frequently planned for shop rooms.

(To Be Concluded)

A New School Administration-Unit System

The State of Pennsylvania is projecting a new system of local school administration on a unit basis. The educational forces of the state have, through a committee, headed by J. Linwood Eisenberg, as chairman, worked out an interesting study on the subject. The plan would divide the state into four classes of civil units as follows:

1st class — districts with over 500,000 population.

2nd class — districts with 30,000 to 50,000 population.

3rd class — districts with 5,000 to 30,000 population.

4th class — districts with less than 5,000 population.

It then explains that there are 2 first-class districts, 20 second-class districts, 262 third-class districts, 2,303 fourth-class districts, or a total of 2,587 districts.

It is also demonstrated that there are 1,157 districts having less than 1,000 population and 1,561

having less than 1,500 population. Of the number of districts having no teacher, there are 32; one teacher, 110; two teachers, 156; three teachers, 143; four teachers, 167; eight or less, 1,293; ten or less, 1,427.

Financial Ability of Districts

The committee report brings out in a lucid manner the financial status of the several districts.

"The poorest fourth-class district has \$4,000 true and assessed valuation per each teacher employed. The richest fourth-class district has \$2,346,000 true and \$707,000 assessed valuation per teacher employed. This means that the wealthiest fourth-class district has 586 times the ability to pay that the poorest school district has. There are 8 districts having less than \$25,000 assessed valuation. 57 have less than \$50,000. 195 have less than \$100,000 and 1,193 have less than \$500,000 assessed valuation.

"The average assessed valuation per pupil in

(Continued on Page 60)



SENIOR HIGH SCHOOL, MARYSVILLE, OHIO
Richards, McCarty, and Bulford, Architects, Columbus, Ohio.

The Marysville High School Co-operatively Planned Building

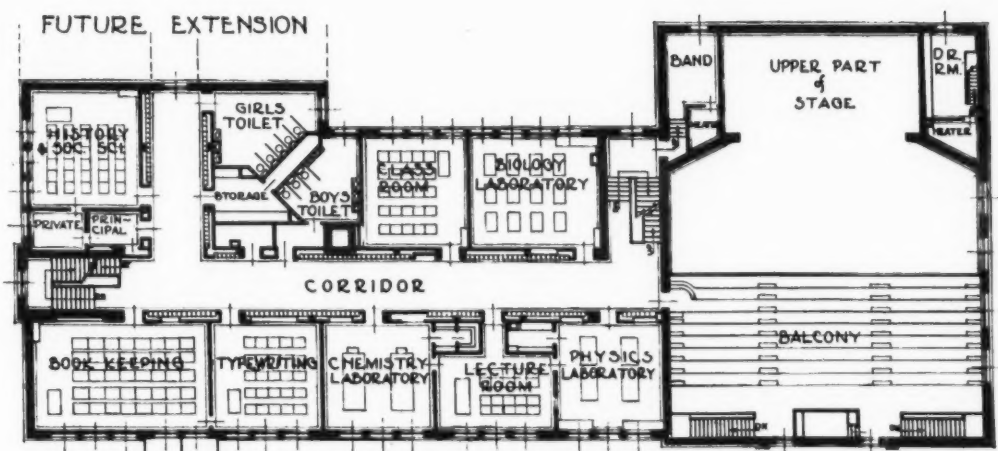
The value of moderation and of long-term planning in the design and erection of school buildings is illustrated in the very satisfactory Marysville Senior High School at Marysville, Ohio.

The effective planning of this building was initiated by Supt. F. G. Bittikofer and the Marysville Board of Education in 1929 and plans were adopted in May, 1930. Contracts were let in June, 1930, and the structure was completed for occupancy in the summer of 1931. In the preliminary planning, the school authorities not only considered the immediate enrollment and the existing organization of the school, but took into account such growth in enrollment and changes in instructional method as might reasonably be foretold. The board of education was concerned in developing the project in such a way that no embarrassments in financing would result at any future time.

In all the preliminary work the architects and the officials of the board of education worked in close harmony so that the building represents the best thought in educational and architectural planning of experienced men working in close coöperation.

The building occupies a lot having a frontage of 333 feet and ample depth for a large playground in the rear. The exterior has been developed in a very conservative Colonial style, and the building has been kept as low as possible so that it harmonizes with the surrounding fine residential neighborhood. The walls are in red oversize brick reproducing the effect of early Virginia brickwork. The trim is Indiana limestone and the roof is covered with blue and gray slate. Window frames and sash are wood painted white.

The interior of the building is constructed of concrete and steel, with a wooden roof over the classroom section. The corridors and stairs are



SECOND FLOOR PLAN



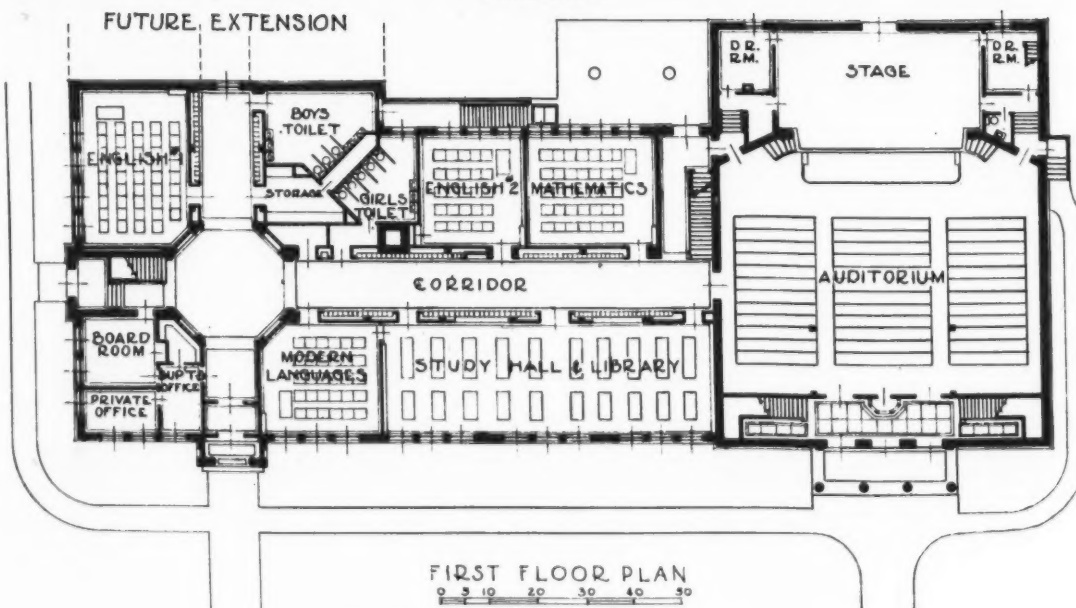
A STUDY GROUP, SENIOR HIGH SCHOOL, MARYSVILLE, OHIO
Richards, McCarty, and Bulford, Architects, Columbus, Ohio.



LIBRARY



AUDITORIUM



SENIOR HIGH SCHOOL, MARYSVILLE, OHIO
Richards, McCarty, and Bulford, Architects, Columbus, Ohio.

of cement and terrazzo. The classrooms have mastic floors and the toilets have terrazzo floors and marble stalls.

The building is planned without a basement except for a limited area occupied by the heating apparatus and space for the janitor.

On the first floor there are four classrooms and a large combination study hall and library. A suite of offices has been provided for the superintendent of schools and for the board of education.

On the second floor there are two classrooms, a biology laboratory, physics and chemistry laboratories, a science lecture room, a room for bookkeeping, and a room for typewriting. A separate office is also provided for the principal.

The auditorium, which occupies one end of the building, is planned for general community as well as school use and has a very complete stage with dressing rooms, a picture projection booth, etc. It will comfortably seat 526 persons on the main floor and balcony.

The architects have developed plans for a 12-classroom addition to the building and for a gymnasium to be erected at a later date without breaking up the present scheme or arrangement of the interior.

The building is heated with low-pressure steam, with unit ventilators in all classrooms. The auditorium is ventilated by means of heaters and blowers located in special spaces to the right and left of the upper stage. The entire heating system is controlled by thermostats.

The building has complete electrical equipment including provisions for a complete program clock and a fire alarm system. Conduits have been installed for a radio and public address system.

The sanitary installation is of the heavy duty school type. The very finest quality of vitreous china fixtures have been installed. Heavy duty flush valves have been used.

The classrooms are fitted with composition blackboards and cork bulletin boards. The oak trim in the classrooms harmonizes with the standard oak finish of the auditorium, library, and classroom furniture. The classrooms throughout have movable desk-chairs. The library has built-in shelving.

The building contains at present no provisions for home economics or shopwork. These courses are offered in another building on the same site.

The building cost \$125,000 without furniture and equipment. The architects were Messrs. Richards, McCarty, and Bulford, of Columbus, who have specialized in schoolhouse work during the past 30 years.

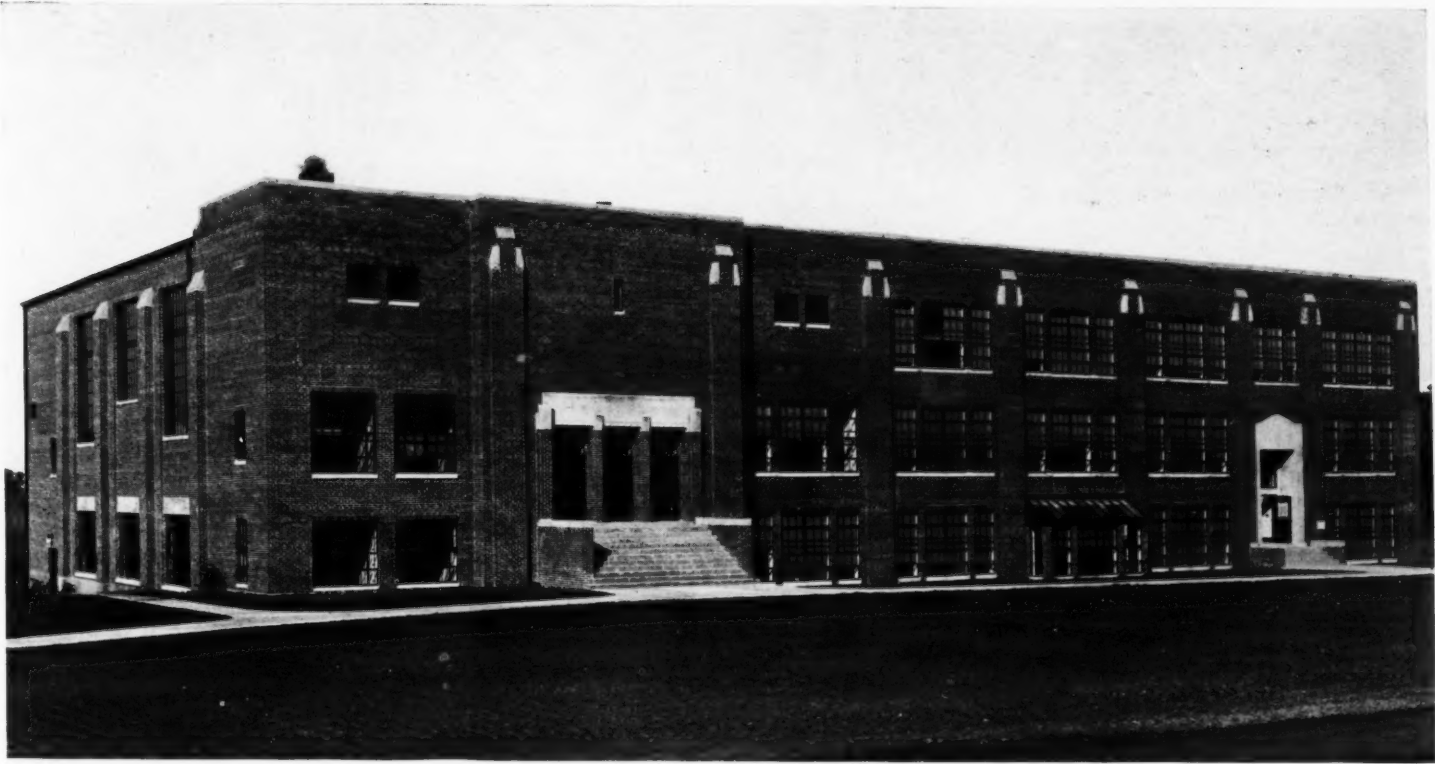
A SEVEN-POINT HEALTH PROGRAM FOR SCHOOLS

A seven-point health program, with a special-award plan, has been adopted for use in the junior and senior high schools of Watertown, Wis.

Under the program, a pupil is required to measure up to certain health standards determined by physical inspection and records of the respective points. A pupil who qualifies on the entire seven points is awarded an emblem and appropriate recognition at commencement time. The seven points upon which the pupil is rated are: (1) eye, ear, nose, and throat inspection; (2) lung and heart inspection; (3) height, age, and weight measurements; (4) immunization from disease; (5) dental inspection; (6) posture and physical fitness; (7) sports participation.

In order to secure the award of the seven-point emblem, a pupil must obtain from the city nurse a signed statement that all of the inspections have been made and that the pupil has been found sound in health. From the dental hygienist he must obtain a card stating that the dental conditions are satisfactory. From the physical director he must obtain a statement that the weight, age, and height conditions are satisfactory and that the sports participation is meritorious.

Arrangements have been made to give appropriate recognition to those who succeed in qualifying, as a part of the commencement program. This incentive will be used to encourage pupils in the formation of correct health habits.



GALVA COMMUNITY HIGH SCHOOL, GALVA, ILLINOIS
William H. Schulzke, Architect, Moline, Illinois.

A Successful Depression School Building Project

C. A. Weber, Superintendent of Schools, Galva, Illinois

In July, 1930, following three attempts the people of Galva, Illinois, voted to organize a community high-school district which stood the test of a court action. A board of education was elected and, under the guidance of Superintendent F. U. White, a veteran of 46 years' service in the Galva schools, the project of a modern school plant was launched. In March, 1931, the board of education employed Mr. Wm. H. Schulzke, architect, of Moline, to draw up preliminary plans for a high-school building to cost approximately \$125,000.

About this time, Superintendent White announced that, due to ill health and the pressure of other interests, he would not be a candidate for reelection. This announcement startled the board of education because the members realized that Mr. White's long experience would be valuable in the planning and completion of the proposed high-school building. They finally persuaded Mr. White to serve as an agent of the board until the first of July, 1931. In the meantime they planned a program of publicity to crystallize public opinion.

In May a successor to Mr. White — the author of this article — was employed and cooperated with Mr. White and the board of education in the compilation of statistics, and other data which would be useful in the campaign for better school support.

Preliminary Preparations

The board of education realized that times were not good, that the farmers were not in good humor, that the local business men were having a hard time, and that the average small taxpayer was not in a receptive mood to consider increases in taxes. In spite of these things the board of education continuously presented information to show that the low tax rate of Galva was considerably lower than the average for the state, and that the old building was entirely inadequate for the educational and civic needs of the community.

The most important facts brought to the attention of the city were: (1) that there were no facilities in the old building for physical education; (2) that there was no auditorium where public gatherings of the community could be held; (3) that the state department and the University of Illinois would probably remove the Galva High School from the accredited list if some steps were not taken toward a new building. To quote from one of the newspaper releases: "Our problem is simply stated: We must either have a new school

with happy, healthy, educated children and a slight increase in cost or the same old school — children denied their birthright and a little extra cash to burn our pockets. Which will you choose?" The local civic, social, and religious organizations all cooperated in promoting the idea and on June 6, 1931, the voters, by an overwhelming majority, voted to issue bonds to the amount of \$118,000. Immediately the board of education began active work on the plans submitted by the architect.

The site for the building was selected finally in August, 1931, and the plans were adopted in the same month. The first preliminary plans had been developed with the assistance of Mr. F. U. White, superintendent of schools until July 1, 1931. When Mr. White retired, the writer further assisted in the development and final approval of the drawings and specifications. The contracts were awarded and the excavation was begun in September, 1931.

Space Arrangements

The Galva Community High School is an "L" shaped building 191 ft. long and 116 ft. deep along the west wing. The ground story is 14 ft. high in the clear; a first story 12 ft. 3 in., and a second story 12 ft. The foundation is of concrete up to grade and the exterior of the superstructure is faced with tapestry brick and Bedford-stone trim. The building was designed for a maximum amount of window space, so that every room would be adequately lighted. The "L" shape of the plan was used so that, if it becomes necessary to add classroom space, another wing to form a "U" shaped building may be erected.

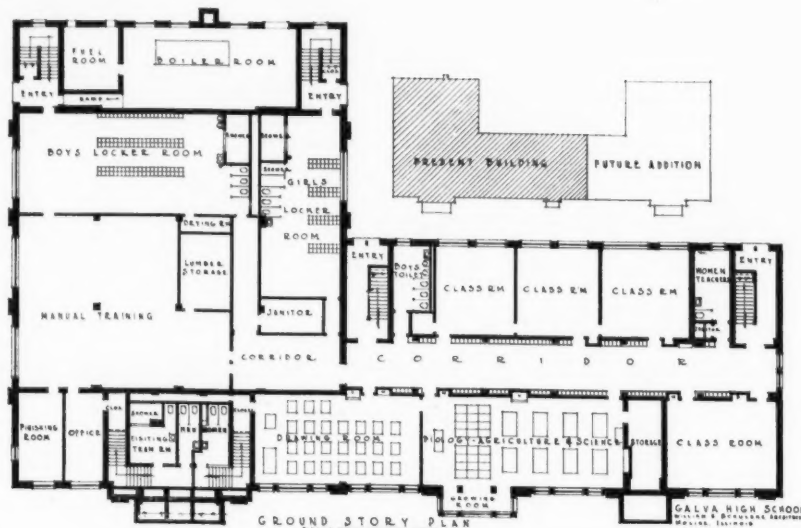
The ground story contains four classrooms now used for English, history, foreign languages, and social studies. The ground floor also contains an adequate laboratory for biology and general science.



CLOTHING LABORATORY, GALVA COMMUNITY HIGH SCHOOL, GALVA, ILLINOIS
William H. Schulzke, Architect, Moline, Illinois.



FOODS LABORATORY



GROUND STORY PLAN



GALVA COMMUNITY HIGH SCHOOL,
GALVA, ILLINOIS
William H. Schulzke, Architect,
Moline, Illinois.



COMMERCIAL ROOMS

This laboratory has adjoining it a growing room and a storage room. Laboratory tables for 32 and lecture seats for 32, and a demonstration table for the teacher are provided.

In the boys' department there are a mechanical drawing room, a shop, a paint room, a lumber storage room, a boys' locker room, and janitor storage space. On the same floor there are also located a girls' locker room, a restroom for women, and directly under the auditorium lobby two toilets for visitors. The boiler and fuel rooms are located at the north end of the ground story. The usual dark basement boiler room has been avoided and the whole space has been laid out for efficient operation.

The first-story classroom section contains five rooms used for English, mathematics, shorthand, typewriting, and music. The administration offices on the first story are directly opposite the classroom entrance. The public office is conveniently located directly ahead of the stairs. At the east side of this public office is the office of the superintendent and on the west, the office of Mr. H. M. Robertson, principal. A fireproof vault for records connects with the outer office.

The toilets at opposite ends of the first floor, as well as all others in the building, are ventilated by exhaust fans located on the top story.

The Auditorium-Gymnasium Unit

The auditorium and gymnasium section forms a wing 82 by 115 ft. in dimension. The entrance is at the south through recessed doors which give weather protection and lead directly into the lobby. The auditorium-gymnasium is 80 by 92 ft. in size, having a clear floor space of 80 by 69 ft. The walls are of tile and the ceiling is finished with acoustical material.

The stage, which measures 24 by 58 ft., has a proscenium arch 40 ft. wide. It is equipped with two full curtains, an outdoor leg drop, an ecru cloth sack, and a light canvas cyclorama. There are three complete sets of border lights, spots, floor lights, floor plugs, outlets, disappearing footlights, all controlled by a bank of dimmers which permits of practically any type of lighting desired. This stage was designed and built by a local man at

practically no cost and in the words of the architect, "it is better equipped than most stages in schools costing three times as much, even though the cost was only half the amount usually expended for such equipment."

The balcony of the auditorium-gymnasium seats 500 persons and the main floor 780 for auditorium purposes and 225 for basketball. The stage may be set with bleachers to accommodate 150 spectators.

The Second Floor

On the second story are situated the library, the clothing laboratory, the physics and chemistry laboratory, and the foods laboratory. The library is 22 by 56 ft. in size, with built-in, adjustable shelving, and tables and attached chairs of a special noiseless type. The location of the library opposite the food laboratory makes possible its use as a dining room for community or other special dinners.

The clothing laboratory is equipped with modern tables and machines, has built-in cabinets, a fitting room, and built-in ironing boards. The foods laboratory is equipped with the newest type of cooking

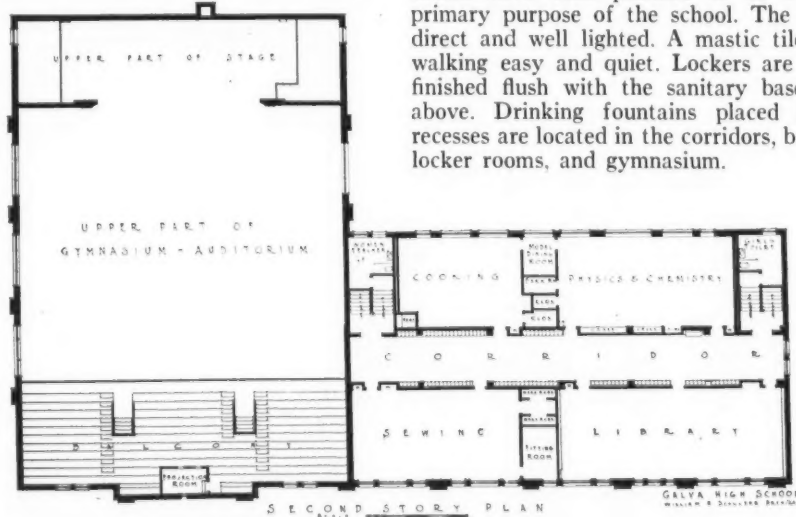
tables, stoves, and sinks. A feature is a new gas burner, invented and manufactured in Galva. In this room there are also a gas range and electric refrigerator, a pantry, and a model dining room.

The physics and chemistry laboratories are equipped with laboratory tables, wiring for electricity, piping for gas and water, adequate shelf space and two storage rooms.

The main purpose of a school building is to provide a place of instruction for the children. A secondary purpose is to provide a place where, during idle hours, recreation and entertainment can be had. In the design of the Galva Community High School this wider use for recreational and extracurricular activities has been directly planned for. Practically all of the special rooms have been located, planned, and equipped with this double use in mind.

All of the classrooms are equipped with modern lighting fixtures, loud-speakers connected to a central sound system, telephones, and centrally controlled electric clocks.

Corridors, stairways, offices, toilets, and restrooms have been planned to be a part of the primary purpose of the school. The corridors are direct and well lighted. A mastic tile floor makes walking easy and quiet. Lockers are recessed and finished flush with the sanitary base and plaster above. Drinking fountains placed in glazed-tile recesses are located in the corridors, boys' and girls' locker rooms, and gymnasium.



SECOND STORY PLAN, GALVA COMMUNITY HIGH SCHOOL, GALVA, ILLINOIS
William H. Schulzke, Architect, Moline, Illinois.

Ventilation and Equipment

The ventilation of classrooms is accomplished by unit ventilators automatically controlled to recirculate the air or to draw in outdoor air according to temperature needs.

The type of equipment and furniture has been selected with care. Built-in bookcases and supply closets have been incorporated in the rooms and the laboratories are well supplied with display and storage cupboards. Ample blackboard space of natural slate is provided, with map rails and tacking strips. Bulletin boards of light tan corkboard are provided. The classroom doors, which swing outward into the corridors, are fitted with glass which is obscure except for a single panel.

The fireproof stairs which lead from the second story to the exits on the ground story are separated from the corridors by self-closing metal doors, glazed with clear wire glass. The entire building may be cleared of all occupants in 40 seconds without hurry or confusion.

All toilets have partitions of enameled metal. The walls of toilet rooms are glazed tile and the floors mastic tile. Each toilet is so equipped that a hose stream may be turned onto the floor for cleaning purposes.

The showers are safe. Each shower group is controlled by a master mixing valve, which will pass the water at a predetermined temperature. An adaptation of the gang shower is incorporated in the shower rooms, permitting ease of supervision and a minimum of janitor service.

Administration Features

The administrative offices are located close to the classroom entrance and the supervision of the building from this location has been carefully planned. Automatic bells control the program, and an intercommunicative telephone system gives communication between principal and teachers. A master-controlled electric clock in each room keeps the classes operating on the same schedule. Fire alarms are located at important points.

The building is equipped with a complete public address system for announcements and radio programs. The system has phonograph attachments so that during an entertainment or basketball games, music may be provided from phonograph records, or from radio broadcasts.

The building was planned for a type of school program which includes the 60-minute period of supervised study. For meeting this requirement, there are in each room a built-in bookcase and filing shelves so that each room is a miniature library as well as a place for discussion and experimentation. The classrooms are fitted with tables with chairs attached, providing more work space for each pupil and yet not eliminating the movable features. Four of these tables may be placed together to form a large table for group work.

Students report to their homerooms in the morning and at noon. These homerooms are the rooms in which they have their first class in either session. Thus, the passing of pupils through the corridors is reduced to a minimum. This could not be done conveniently without the sound equipment which permits the principal to talk directly to every room from his office. At 8:40 all pupils have reported to their respective classrooms and are ready for the daily announcements from the office. The principal at 8:40 regularly announces items of interest and importance to the entire school.

The building is also being used for special classes of the junior high school. The old high school which had been outgrown has been redecorated and re-equipped by the elementary-school district and is occupied by the departmentalized seventh and eighth grades. These pupils take academic work at the old building, but instruction in foods, clothing, art, music, mechanical drawing, shop, and physical education is given in the new building.

A Local Product

An interesting feature of the building is that it is largely the product of Galva contractors and workers. Galva, which has less than 3,000 population, is a manufacturing community as well as the center of a farming community. Galva men almost exclusively were employed as workmen except where certain specialized labor was required. The net result was that a large proportion of the money expended was returned to the community. It was the best unemployment relief enjoyed by the community.



ATHLETIC FIELD



LIBRARY



CHEMISTRY-PHYSICS LABORATORY
GALVA COMMUNITY HIGH SCHOOL, GALVA, ILLINOIS
William H. Schulzke, Architect, Moline, Illinois.

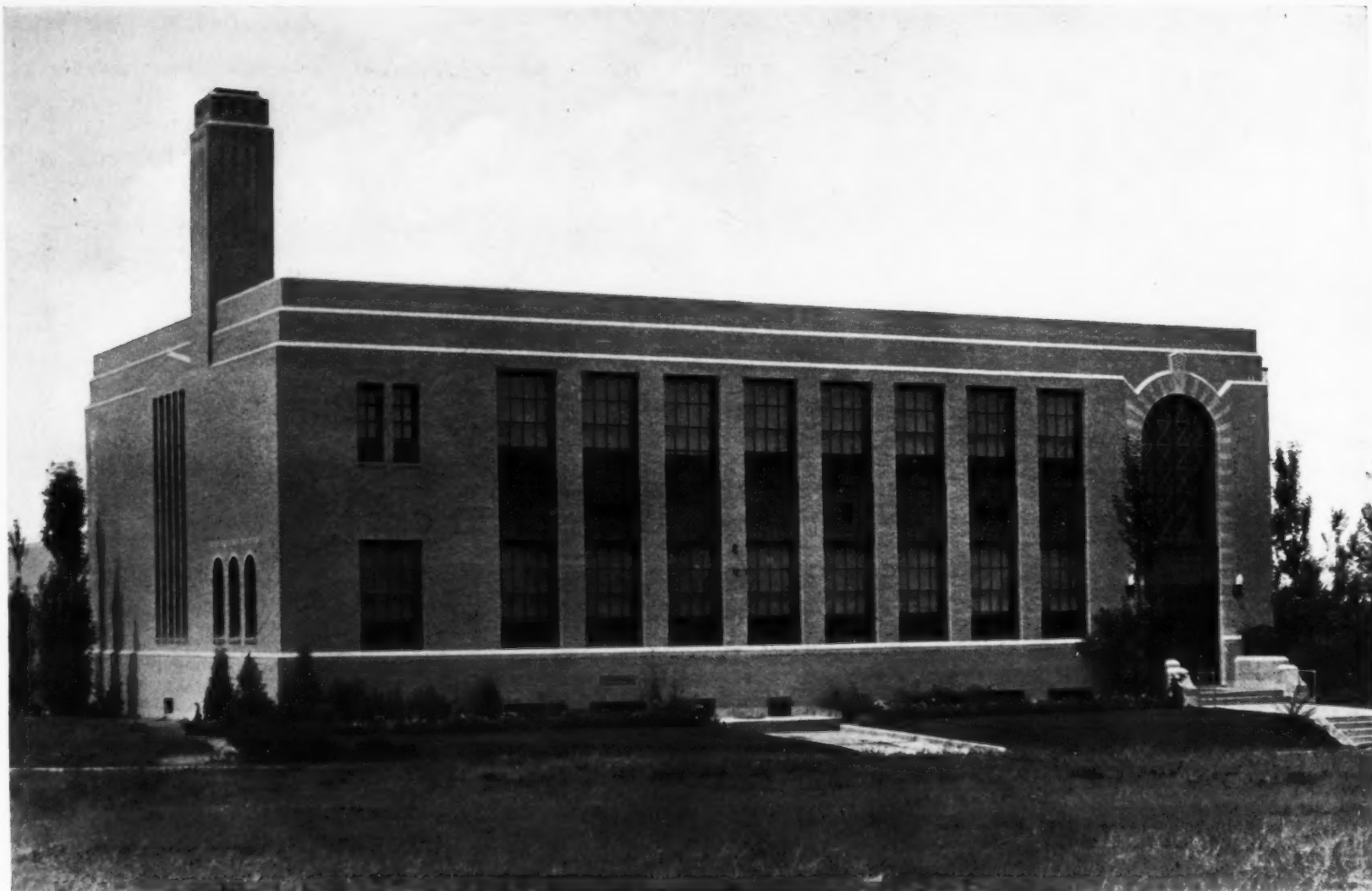
The low cost of labor, materials, and other services indicates that the time to build new schools is when times are poor. If we had built in 1929 the cost of this building would have been \$225,000 as against \$158,000. Bonds were issued to be paid for in times of more prosperity. A new school was provided at minimum cost when needed and an

average of fifty men were kept at work all year when otherwise they would have been unemployed.

Cost Details

The costs for this building were as follows: The building proper including heating, plumbing, wiring, ventilating, painting, clocks, telephones, sound

(Concluded on Page 62)



AMOS STECK ELEMENTARY SCHOOL, DENVER, COLORADO
S. Arthur Axtens, Architect, Denver, Colorado.

A Primary School That May be ENLARGED

THE AMOS STECK SCHOOL, DENVER, COLORADO

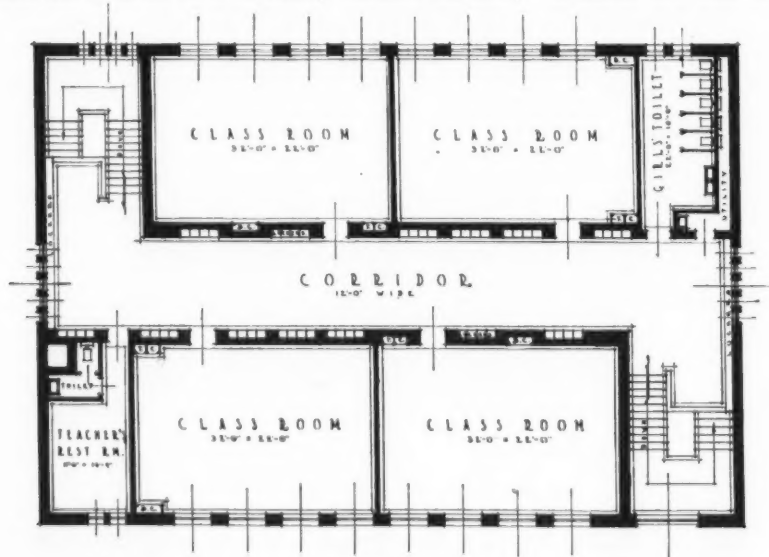
The Amos Steck School, at Denver, Colorado, is the interesting central unit of a school building erected in a new residential section, where very considerable extensions will be necessary in future years. A distinct effort has been made to secure a building of great simplicity in design, which will look well in its incompleting form. The architect has developed both the interior and the exterior in a distinctly modern manner,

logical and honest in its expression of function, materials, and cost.

The basement is unexcavated, except for a limited section devoted to boiler and coal rooms, a janitor's room, and storage space. On the first floor there are two standard classrooms, a large kindergarten, and an office suite. A boys' toilet and a separate toilet for the kindergarten children are also on this floor. On the second

floor there are four standard classrooms, a girls' toilet, and a teachers' restroom.

The exterior has been developed in rough-texture cream brick, with base courses of terracotta, spandrels of reddish-black brick, and trim of smooth-surface cream brick. The foundations are concrete, and the bearing walls throughout the building are of brick from the top of the foundations to the roof. In the corridors and stairways, wainscoting of golden-brown glazed brick have been provided. Above this, the walls are plaster. The classrooms have partitions of staggered wood studs, sound-insulated and covered with metal lath and gypsum plaster. The corridor floors, stairs, and kindergarten are of reinforced concrete, covered with battleship or pattern linoleum. The classroom floors are of maple, above wood joists,



SECOND FLOOR PLAN



SOUTH END OF KINDERGARTEN

AMOS STECK SCHOOL, DENVER, COLORADO
S. Arthur Axtens, Architect, Denver, Colorado.



LINCOLN SCHOOL, NORFOLK, NEBRASKA
James C. Stitt, Architect, Norfolk, Nebraska.

MEETING PRESENT WANTS AND PLANNING FOR FUTURE NEEDS

The Lincoln School Building at Norfolk, Nebraska

The new Lincoln School building, recently completed at Norfolk, Nebraska, was designed to embody the latest and best ideas in elementary schools from an educational standpoint and, at the same time to give the community the maximum value for the tax dollar. The building serves a growing section of the city and the school authorities had distinctly in mind the future enlargement of the building due to increased enrollment and an enriched elementary-school program.

In exterior design, the building follows the present architectural trend toward mass and simplicity, with practically no attempt at ornamentation. The materials are rough-texture face brick, laid in colored mortar with Bedford-stone trim.

The interior presents a very compact and easily supervised arrangement of classrooms, corridors, and service areas. The floor-plan layout has been distinctly developed with an idea of extremely low cost in present construction, and ample provision for future growth and expansion. The side corridors have been arranged for expanding the building at each end, without loss of light or air in the original central unit.

Structurally, the building is of fire-resistive type throughout, and entitled to Class A-1 fire-insurance rating. All exterior walls and all interior load-bearing partitions are of solid brick construction, and all floors, stairs, and attic slabs are of reinforced concrete.

In the interest of the elimination of noise and foot fatigue no "hard" floors have been used, except the terrazzo floors of the corridors and stairways, and the tile floors in the toilet rooms. In the classrooms and other portions of the first and second stories, the floors are of 3/16-inch battleship linoleum.

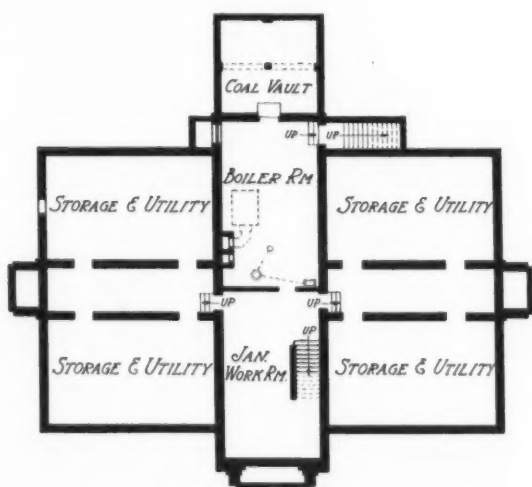
All of the eight classrooms are designed for a normal capacity of 50 pupils each. Each room is equipped with a built-in ventilated wardrobe, a bookcase, and a teacher's closet.

The building is heated with vacuum steam thermostatically controlled. All rooms have direct radiation, and the classrooms have in addition the new type of unit ventilators, which automatically adjust the amount of outdoor air and of recirculated air to the necessities of the prevailing temperature. A complete electric-program-clock and signal system is installed.

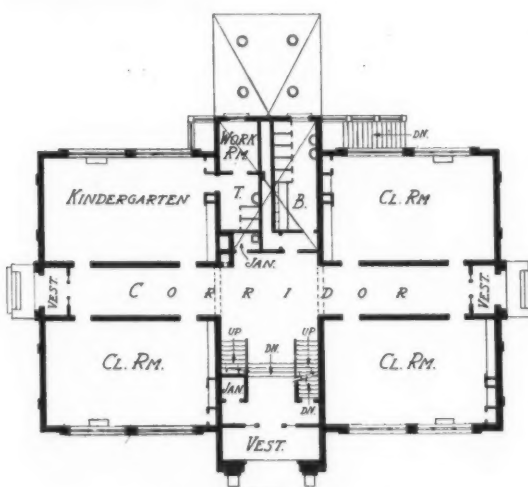
The school is limited to children in the kindergarten and the first six grades, which explains the absence of an auditorium and a gymnasium. The kindergarten room is so located that the kiddies may enter and leave the building without mingling with the older pupils. This room is provided with separate toilet facilities and a small workroom.

The building has been erected at an extremely low cost of construction, 17.76 cents

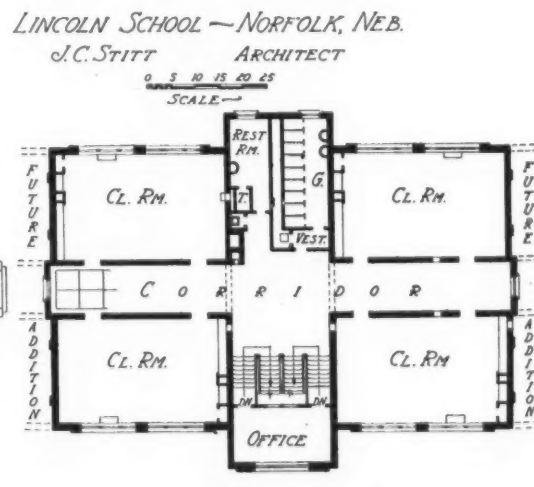
(Concluded on Page 62)



FOUNDATION PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

FLOOR PLANS, LINCOLN SCHOOL, NORFOLK, NEBRASKA
James C. Stitt, Architect, Norfolk, Nebraska.

The Selection and Management of School Equipment and Supplies

R. W. Hibbert, Director, Books—Supplies—Equipment, St. Louis, Missouri

(Continued from December)

III. Management of Supplies

The question of management of equipment and supplies divides itself into so many possible points and realms that a discussion of all phases would not be practical. I shall attempt to touch upon only a few in the balance of this paper. Outstanding among the problems of management is the question of a central store-house. Its practicability is understood by laymen as is shown in a statement of N. Bradford Trenham, representative of the California Taxpayers' Association, who writes: "The most important yardstick in the purchasing phase of business administration is the unit cost of supplies. The district should know at all times how its unit costs compare with other similar districts, also how the consumption of the various supplies compares."

"The cost per pupil and the volume per pupil are useful yardsticks. The cost of administration of the purchasing department is somewhat of a check on its efficiency. The purchasing department should know at all times its costs per dollar of purchases. It might well fall in the range of 1 to 3 per cent, depending upon conditions, but when it gets too high you have a barometer which indicates that a storm is brewing."¹

There is then a lower limit above which the central-store-house plan is practical and economical. For sake of explanation, let us assume fifty teachers in a school system. Some items of equipment and supplies can be best purchased on a direct-to-school delivery plan. On this point the local community must be the judge, but all school administrators should be conscious of the advantages of the central store-house plan. Under this plan it is proposed that all supplies used by a majority of teachers be stocked in a central storeroom and purchases when made be delivered to this location. The plan includes deliveries to schools or rooms on say a tri-monthly basis on orders coming from the school principal or teacher and chargeable to the respective room, activity, or school. With this plan in vogue, the following advantages present themselves:

1. *Estimating Needs.* The first of these advantages is the possibility of a better estimate of supplies needed at the purchasing date. With the central store-house plan in operation, records of purchases and deliveries are a necessary part of the procedure. It is suggested that purchasing estimates be calculated from the following factors:

a) A comparison of stock on hand at date of estimate with stock on hand at same date for several preceding years.

b) Amounts of the particular item which has been used for the current school year to date of estimate compared with a like period for previous school years.

c) Stock purchased for delivery to central store-house for the year preceding the estimate as compared with purchases for previous school years.

d) Any new activity to be undertaken or any increase or decrease in present activities which may cause an increase or decrease in the particular item to be purchased.

2. *Fulfillment of Contracts.* When purchases are made on the basis of a sample selected by the instruction-department committees, the question often arises whether the delivery by the vendor is in accordance with the accepted sample. The plan as proposed then permits a check of deliveries to ascertain that quantity and quality compare with the item which the vendor has previously proposed to furnish.

3. *Systematic Control.* A more systematic control is available when deliveries are made from a central source, as a continuous record of distribution charges is on file to indicate the quantity of the material used by each school, activity, or department. Such a plan permits a control warning to be sounded when stocks indicate that usages are apparently increasing even though they should be kept parallel or perhaps show a decrease, in case a decrease in quantities used has been suggested or proposed for economy measures. If need be, a detailed check may be an instrument to point a warning finger at those schools or activities which have failed to respond to warnings of necessary economy measures.

4. *Minimum Stock Requirements.* When each school building is a storeroom unto itself, certain amounts of reserved stocks are necessarily larger. The percentage of necessary reserved stock is less and can be used more advantageously when supplied from a central source. This makes possible smaller stocks in the classroom, and therefore a guarantee that fresher, cleaner, and better cared for stock will be used. This in itself can be interpreted to mean a smaller amount of waste because of the improved opportunities for stocking items supplied as just indicated. Along with this is the possibility of decreased cost of storage where special shelving or special bins are required. If these were required in each school to care for small quantities of special materials, it will be apparent how this factor in itself could increase the costliness of the individual item and therefore of the educational activity.

5. *Elimination of Hoarding.* We have heard many things regarding hoarding in private and governmental processes. This also applies to schoolroom supplies. If the central store-house had no other advantage than the prevention of hoarding on part of any schoolroom or activity, it would justify its existence on this point alone.

6. *Uniform Supply for Uniform Instruction.* As previously indicated, it is possible to increase purchasing costs for commodities and overhead by increasing specifications to include many multiplicities of kindred items. If allowed to run rampant, it has been noted that schools within a school system vary with their desires and demands for the fulfillment of the same curriculum objective. It has also been noted that where these desires are standardized, results of the same quality may be obtained. The central storage plan insures uniform supply for uniform instruction.

7. *Lower Costs.* Lower purchasing costs result from this plan because of the elimination of selling costs necessary in some school systems where the salesmen must visit the individual principal and sell for the needs of each school. The latter kind of selling does not permit of competitive bids or a systematic selection on the basis of a standard procedure, nor does it

permit of prompt payment for deliveries in accordance with proposals. Lower costs are further made possible because greater quantities of particular supplies of one kind are purchased and used, instead of various types of the same item for the same purpose.

8. *Direct-to-School Deliveries.* In the case of equipment and supplies used by a few teachers, it is considered best to purchase for direct-to-school delivery. Some school systems, however, do all their purchasing through the central store-house method. The community must make the decision, however, on the basis of pure economy and having set up the plan can at times add many items to stock without increase of overhead. A combination of these plans is worthy of consideration.

The Supply Clerk

Probably every school system of fifty or more teachers should have a supply clerk. The duties assigned would of necessity vary with the size of the community. In the larger cities it is proposed that supply clerks be assigned to duty in the schools, independent of the central purchasing department. The assignment of such assistants will prove profitable because of the help given to the administration as well as the resulting economies. Among other duties, this administrative supply clerk would assist greatly in the following:

1. In checking deliveries, from the central store-house and from vendors. This check pertains itself more to quantity; quality can better be checked as previously suggested by the purchaser. In many cases, return deliveries are necessary or transfers. Much confusion is occasioned when no one in a school has this direct job as a duty.

2. A well-kept school storeroom is essential and without a clerk in charge this is rare. The storeroom should be arranged systematically with perhaps a chart of places assigned for certain supplies.

3. In most schools the equipment inventory is a problem. To a commercial business the accurate inventory is an outstanding necessity and so it should be to the schools. It can be better supervised by the supply clerk who can also devise the most acceptable form and adapt it to its greatest use.

4. Estimates of supplies coming from a school to a purchasing department should be accurate, concise, and uniform to afford ease of handling. Where a supply clerk is not accessible, however, this is not often the case, and many errors and omissions occur.

5. Requisitions should be accurate and uniform, but still we find teachers and principals who assume that the department of purchase knows as well as they what is desired and sometimes fail to state concisely what delivery should be made or what service should be rendered. Again, a trained supply clerk could place requisitions accurately and so avoid delays, confusions, and waste.

6. It has been reported in many cases that a teacher ordering some equipment or supplies does not receive it although records indicate delivery to the proper school. This happens when orders and deliveries do not come through the same channel in a school. Again the supply clerk would straighten out this kind of mismanagement.

(Continued on Page 63)

¹N. Bradford Trenham, "Yardsticks and Barometers for Measuring Efficiency of School Business Administration." Proceedings National Association of Public School Business Officials, 1932 Proceedings, p. 175.

THE AMERICAN School Board Journal

EDITORS:



WM. GEO. BRUCE

WM. C. BRUCE

Pending School Legislation

THE legislatures now in session in many states are considering a flood of measures affecting the public-school interests. While it is premature to predict what changes will be made eventually, enough bills are available to form some estimate of the trend of things. The blind demand for lower costs comes from certain quarters in the interest of the present popular idea of public economy. Opposed is the equally blind effort of some interested groups to retain the *status quo* of the recent inflation period, with motives that are not clear-cut in favor of children and public welfare. Between these extremes, there is considerable sound statesmanship that recognizes facts and conditions and is willing to readjust school organizations and offerings in a sensible way.

In contemplating the pending school measures, it is evident that those dealing with the subject of taxation are considerably in the lead. The lawmaker is not only examining the present tax laws, with the idea of revision in mind, but is seeking to discover new sources of tax revenue. If the support of the schools is to be maintained, the question is where the tax dollar can best be obtained with equity and with adequacy.

There is a complete conviction that property, as such, cannot bear any heavier burden. Other sources of revenue must be found and tapped. This brings to the surface proposals for income taxes on intangibles, general sales taxes, inheritance, luxury, and severance taxes.

The majority of states is not only concerned with adequate state support for the schools, but also with a method of equalization that will enable the poorer district to maintain a good school. In some of the western states, the cry to protect the "barefoot boy" is eloquently and convincingly heard. A similar cry is heard in most of the southern states. The need for equalization concerns practically all of the states, and as Dr. Mort points out, involves the adjustment of the burden by greater participation of the state in the financing of a recognized minimum educational program, and in the payment of the entire cost or of supplementing a uniform local tax. Ohio and Indiana are particularly active in considering measures in this direction.

The State of Pennsylvania seeks to solve its financial problem by securing a new grouping of school districts and larger school units in point of administrative authority and support. It is believed that the proposed change will make for both economy in school costs and for efficiency in service.

There is also a tendency in Pennsylvania to reduce school expenditures and to curb the authority of those now intrusted with the task of making them. The State of Massachusetts is called upon to enact a law whereby the veto power of the local mayors is to be strengthened. While the purpose of these measures is to limit the authority of boards of education, we find in other states an effort to provide local school authorities with greater discretionary power. In many states, the removal of teachers is made impossible through tenure laws. Local school boards cannot change teachers' salary schedules, because the legislatures have already fixed them by law. In New York and in Wisconsin, for instance, efforts will be made to repeal the laws which deprive local boards of education of the privilege of changing salary schedules.

In these several legislative measures, the issue is narrowed down to one of control, namely, whether certain powers shall remain in the hands of the locality or the state, or again whether local control shall be widened or curtailed. The best statesmanship seems to rec-

ognize the need for larger local units of control, made possible by improved transportation and enlarged community interests, but it is quite clear that local control and development are the order of the day as a means of keeping the schools close to the people. Greater state support will not achieve its purpose if there is correspondingly greater state control.

It is reasonable to hold that, when the legislative season is ended, many measures will go into the law books that will lend greater stability and security to the schools. That there will be a general tightening of administration, necessarily a wiser expenditure of the school dollar, and considerable reorganization in the direction of achieving the original purposes of the schools in the light of newer needs, seems inevitable. The school boards and the professional educators must join hands in seeking true statesmanlike action rather than group interest or reaction.

Improving Uniform School Accounting

IF RESEARCH workers have encountered difficulties in arriving at competitive figures, namely, to contrast one school system with another, it has been because no sets of account keeping are exactly alike. In brief, there has been a lack of uniformity in school accounting, which has frequently prevented comparisons which might lead to greater economy and efficiency.

The Cincinnati board of education, for instance, recently subjected its school system to a survey in order to arrive at comparative costs. The investigators reported that comparative figures on school costs as between various cities were not obtainable, due to the different manner in which cities kept their accounts.

The fact that the financial operations of the schools are undergoing readjustments, which emphasize a wider and better use of the dollar, not only prompts more careful accounting but ought to lead also to greater uniformity in accounting. If any one school system has a better method of account keeping, simple and yet efficient, designed to reveal the essential financial facts rather than conceal them, that method ought to be the property of all.

The absence of a clear-cut, practical, and serviceable system of account keeping is unquestionably a handicap. A system inaugurated several decades ago, and still adhered to, may have outlived its use. And yet there is a strong tendency to do things today as we did years ago, and ignore newer and better methods.

"The technique of accounting procedure in a school district differs widely from that in a private business because governments operate under laws minutely prescribing their powers, functions, and methods of doing business, while private concerns are limited only by their charters and by a few incidental provisions of the general laws, usually relating to taxes." So said recently, Frank E. Searle, a California expert, in discussing the subject of uniformity in school accounting. In order to demonstrate the difference in public and private accounting, he adds:

"Methods of corporation accounting have advanced enormously within the past generation but, unfortunately, the slipshod book-keeping or accounting methods of public enterprises of half a century ago have been embalmed in law. Business enterprises have adopted better accounting practice or have gone bankrupt. The chief reasons school districts have not gone bankrupt are their power to levy taxes to make up any deficit, the generosity of the people in voting school bonds, and the steady increase in assessed valuations."

The importance of being able to read the real truth out of a financial statement, based upon a comprehensive system of recordkeeping cannot well be minimized. Directing his attention to school accounting, Mr. Searle says: "Accounting means more than a mere record of cash transactions; it means accurate financial planning and control. How many business corporations could remain solvent if they kept their accounts on check stubs? Yet this is just what many school districts are doing. Much more is needed than that, if accurate and intelligent financial planning is to be undertaken. The planning officials must have, in addition to statements of cash on hand and cash expenditures, a close estimate of probable income and a complete program of anticipated expenditures.

"A good accounting and budgeting system does not mean an elaborate and expensive installation. On the contrary, a well-designed

system can be adjusted to the size of any district without losing its uniformity. Simplification, not added to complexity, will be obtained."

It remains that, if greater uniformity in school accounting were established, the administrators would not only secure a better control over the financial affairs that must be dealt with, but would also gain knowledge in the comparative facts which uniformity would reveal.

Shall the Public School Encourage Donations?

THE gifts received, from time to time, by the higher institutions of learning in this country have run into most magnificent figures. They have attested the generous spirit which has actuated men and women of wealth in supporting the American colleges and universities and private secondary schools. At the same time, the gifts extended to the public elementary and high schools, in the past, have been comparatively nominal.

A book recently brought out by Professor Wm. R. Odell, of Teachers College, Columbia University, discusses the whole subject of donations given to the cause of education. He points out, for instance, that in 1929 the colleges and universities alone received \$351,000,000, and that the private secondary schools received \$70,500,000. While the attendance in these institutions is less than one million, the enrollment in the public schools is over 25 million.

The explanation for the lack of equal or similar voluntary support for the public elementary and high schools is that, since these are maintained through public taxation, it is believed that they require no private aid. Again, it is told that school superintendents are not of one mind as to the expediency of accepting private gifts and donations for a publicly supported school system. The thought here is that the acceptance of private support weakens the sense of public duty and responsibility.

It remains a fact, however, that, according to Professor Odell, the public elementary and high schools have been the recipients of many gifts in recent years. While these have, in the main, been comparatively small the list is nevertheless a long one.

At this point it may be interesting to note the kind of donations that have gone to the public schools. The number of gifts consisting of sites and buildings are, on the whole, quite small. Donations of sites for playgrounds, athletic fields, gymnasiums, and stadiums have been more frequent. The long list of gifts consists of works of art, paintings, statuary, books, musical instruments, radios, and the like.

Since there has been a difference of opinion as to the expediency of accepting private donations for public use, it may be well to reconsider the whole question in the light of a newer day.

There can be no question that there are needs in many school systems which cannot well be met out of public treasuries. It is equally certain that there are many highly desirable things in the way of agencies or innovations of an extracurricular nature, which the public-school authorities will not provide.

It would seem, therefore, that private donors should be encouraged, rather than discouraged, to shed their benefactions upon the public schools. The opportunities for giving expression to generosity in which a pupil constituency is beneficently served, are many. Every school official can point to things which are highly desirable, but which the school system, for financial reasons, cannot provide.

The Public Schools and Private Business Enterprise

AT A TIME when rivalry in business is keyed upon a more intense basis than this is ordinarily done, the activities of public institutions which bear something of the competitive nature are more closely scrutinized. A modern high school may conduct a cafeteria, deal in certain student supplies, and engage in cinema shows, while trade schools may sell some of the products of the shop.

Occasionally some taxpayer who happens to be engaged in the restaurant or movie business or merchandizing will register a protest in the public press, or resort to the courts of law in order to

check what he believes to be something in the nature of unfair competition.

A case was recently carried to the Supreme Court of Utah in which a citizen sought protection from what he termed unfair competition on the part of the school board. He did not win his case, but the court among other things declared the following:

"While it is within the discretion of the board of education to permit the giving of picture shows and dances, of the ordinary competitive kind in the schoolhouse, yet the board, in exercise of a wise discretion, ought not to use school property for such entertainments where the community is adequately served in this respect by private enterprise."

By way of comment, the *Tribune* of Salt Lake City says: "This simply conveys a veiled warning against the ultimate consequences of failure to exercise 'wise discretion.' It is within the power, and apparently the legal rights, of boards of education to thrust a knife into the heart of private amusement houses. This is more true, perhaps, in the smaller communities than in more populous centers. The principle is identical in either case."

"At this time, when public institutions are feeling the pinch of declining tax revenues, it should be perfectly clear that destruction of the tax source can mean but one thing — the eventual destruction of public institutions so offending."

"So, the Supreme Court cautions, that 'wise discretion' lies with the school boards and not with the courts. The people have their remedy, the tribunal explains, in cases of abuse of discretion, by petition to the board and by the election of new members. Indeed, the decision in this case places a new and vital administrative burden on every board of education in Utah."

The question of public activities interfering with private enterprise is not confined to the schools alone but has come to the surface in other branches of governmental service, both local and national. It has become clear, however, that the school authorities enjoy a rather wide latitude in bringing to the service of the school, innovations designed to promote the physical and mental welfare of the student body and which in some manner compete with private enterprise. The very fact, however, that these things are done for the cause of education, and not for profit, gives them a legal standing.

Prison-Made School Furniture and Supplies

In some twenty-odd states the legislatures now in session are seeking to place a curb on prison-made goods that compete with free labor. In several states the prisons engage in the manufacture of school furniture and supplies and thus compete with the regular manufacturers.

Aside from the labor problem here involved, namely, the expediency of keeping a convict busy and thereby putting out of employment a law-abiding workman, there are also considerations which concern the schools. The thought that a school child must sit in a convict-made school desk, or use supplies that are made by the man in stripes, is not altogether edifying.

If the pupil is to be impressed with the dignity of labor, together with an appreciation for the products of labor, then it follows, too, that the precepts exemplified in useful classroom paraphernalia must emanate from honest sources. The child mind may readily grasp the idea that prisons exist for the punishment of wicked men, but the reasons for accepting convict-made products in preference to those made by free labor may not be quite so clear.

THE objections which citizens make against the rules exacted by school authorities in the matter of compulsory vaccination are by no means new. They have for many years arisen periodically here and there followed by bitter controversy. The medical authorities are practically of one mind as to the efficiency of vaccination. Certain cults in medical science only take an adverse position.

So far as the school authorities are concerned, the question was settled a quarter of a century ago. The shortcomings of vaccination have long been corrected. The several state laws providing for compulsory vaccination are clear and generally observed throughout the country.

Ohio's School-Finance Survey

The educators of Ohio conscious of the fact that the financing of the schools of that state must be subjected to decisive changes, have begun their labors with a comprehensive survey of the situation. The so-called Ohio School Survey Commission has just made a report of its findings and comes forward with definite recommendations. The research staff was headed by Paul R. Mort as director, and Charles H. Jones as chairman.

The report brings to the surface the salient facts regarding the present status of school support upon which a new order of things must be built. While the investigators make clear the duty of the state to support the schools adequately, the question of school support turns upon Ohio's present school costs in comparison to those engaged in by other states.

Thus, it is shown that the cost of education is by far greater in New York, Michigan, Pennsylvania, and Massachusetts than it is in Ohio. Here the study says: "As compared with practice in Ohio, Massachusetts state revenues carry double the percentage of the cost of education; in Pennsylvania, state revenues carry four times as great a percentage; in California, state revenues carry almost five times as great a percentage; in Michigan, six times as great a percentage; and in New York, seven times as great a percentage. Of all the states in the Union, only Kansas, Colorado, and Oregon provide a smaller percentage of the cost of education from state revenues than Ohio provides."

The Proposed Plan

The investigators hold that a minimum program embodying the equalization principle, is entirely feasible. They believe, too, that it is possible in terms of cost to be fair to all types of communities and to make the matter of state control quite flexible. The report says: "The present state-aid law provides for the funds whereby the less able districts may employ teachers on a salary schedule determined by the average salary paid in the state, and may provide such other facilities as are commensurate with such a provision of teachers. The actual level of the program provided under the operation of this law varies with the educational equipment of teachers actually employed by

individual districts. The expenditure in such districts varies from less than \$35 per elementary pupil to more than \$60 per elementary pupil in average daily attendance. The average for 1930-31 is in the neighborhood of \$40 per elementary pupil.

"In setting up the present program, recognition was given to the fact that many of the school districts, because of inadequate financing in the past, did not employ teachers whose training was as adequate as present-day conditions demand. The hope that this condition might be remedied brought about use of the salary schedule for determining the cost of the minimum program. It operates in such a way as to assist districts where inadequately trained teachers are employed to change to one in which the teachers employed will have adequate training. This could not be done on short notice without incurring considerable hardship. This plan, which operates to make possible a program of approximately \$60 per elementary pupil in communities which take the necessary initiative to employ teachers who fall in the upper levels of the salary schedule, in a sense recognizes the need of a minimum educational program, which would cost in the neighborhood of \$60 per elementary pupil."

The report also deals with the question of non-resident tuition fees, transportation, etc.

Principles of Taxation

The study recognizes the need of tax reforms and sets forth the following principles worthy of consideration:

"1. The 'benefit received' theory should be followed wherever a private financial benefit can clearly and simply be traced to a public expenditure. This applies particularly to

"a) Financing of highways by taxes based on gasoline used in driving over such highways, and by licenses on cars and trucks in terms of weight, size, and horse power.

"b) Business taxes should be proportioned to the value of the franchise or other privilege granted.

"c) Death taxes on estates, above those needed for reasonable provision for ordinary needs of dependent heirs, should be levied at rates commensurate with the aid furnished by the state in

(Concluded on Page 63)

the penetration of the material is less, its durability is less, and the floor is slippery.

The Blotter Test

From the foregoing the importance of examining the solid content of a floor-treatment material is apparent, and the question naturally follows: How can the average buyer conveniently make such an examination? I suggest the blotter test. It is an exceedingly simple and ingenious method for comparing the solid content of one treatment material with another.

The test is made as follows: Draw two circles about the size of a half dollar on a blotter. Fill each with the materials to be tested. The solids will remain on the surface, while the thinners will be absorbed by the blotter. The outside rings of each circle will enable the purchaser to make a comparison of the thinners. The solids should then pass the inspection of a magnifying glass for the purpose of determining whether they have separated from the thinner. For satisfactory floor treatment, the material should be a complete emulsion and, if viewed through a microscope, should show a smooth, even surface.

A treatment that is not highly emulsified gives the same results as an uneven coating of paint or varnish. The high spots quickly wear out, just as a hole in a cement floor becomes rapidly enlarged through the continued pounding of traffic.

What Price for Floor Treatments?

The price of a floor-treatment material is one that has demanded more attention in the past year than ever before. This is due partly to existing conditions, but more largely to the ever-increasing number of supply salesmen, and to the "floor consciousness" of floor owners. The buyer instinctively demands the lowest price possible.

Unfortunately, low price is no indication of value or even of a bargain. The buyer who considers mainly price more often than not is getting far less for his money than the buyer whose primary attention is engaged with quality. Even granting that two treatment materials are worth the prices asked for them, and assuming that one material is substantially lower in price than the other, it is altogether possible and probable that the cheaper goods will be the more costly in the long run. Bear this important thought in mind: The cost of materials for maintaining a floor is less than 10 per cent of the total maintenance cost.

Suppose, for example, that the maintenance cost of a certain floor is \$1,000 a year. According to the percentage figures just given, approximately \$100 of this would be for material and \$900 for labor, etc. Let us suppose also that the material used cost \$3 a gallon and has to be applied every four weeks (a total of 33 1/3 gallons).

To take an extreme case, the buyer might purchase another floor-treatment material, selling for only \$1.40 a gallon, but experience has shown that in ninety-nine cases out of a hundred that the lower-priced material will last about half as long, or only two weeks. The necessity of applying the treatment every two weeks would immediately jump the labor cost up to \$1,800. It would be necessary to use 66 2/3 gallons of the cheaper material, and the net saving on it would be 20 cents a gallon, or a total of \$13.60 for materials to offset a labor loss of \$900.

Test the Salesman, Too!

Many floors have been ruined through the use of wrong floor-treatment materials. Even the best materials are worthless when improperly applied. The man who sells floor treatments must know floors. He must know what they are made of and the characteristics of the flooring materials before he is qualified to recommend any treatment. I have come in contact with salesmen selling floor treatments who actually recommended for rubber floors what later proved to be nothing more than soap under a fancy name. Any man who has had the least bit of experience with floors knows how injurious soap is to rubber.

The subject of testing salesmen, of qualifying them as men to whom a schoolman may intrust expensive floorings is a matter of major importance, and it is my intention to deal with it at considerable length in a later article.

Answering the Question: *What Floor Treatments are Best for our Floors?*

James Haworth Longshore

Due to the efforts of manufacturers of floor-treating products, school authorities in charge of school buildings, in common with the owners and engineers in charge of commercial buildings, have become more floor conscious than ever before. Boards of health and sanitation societies have stressed the importance of clean and dustless floors. Germs, they point out, are largely borne by scattering dust, and the spread of contagious diseases, is in good measure prevented by the dustless floor.

With this increasing interest in floors and their treatment in mind, it is my desire to present suggestions to school officials responsible for school maintenance that will enable them to solve more readily this problem of floor maintenance. More specifically I shall attempt to point out just how to determine whether a specific floor material under consideration is a quality product, whether it is worth the price that is being asked, and finally whether the manufacturer's representative is qualified to recommend that product or any for the particular floor under consideration. This, I believe, sums up the problem of the buyer of floor treatments.

Checking the Quality

In general, practically all liquid floor-treatment materials are similar in this respect: They are composed of thinners in which the solid content has been held. These thinners, such as gasoline, naphtha, turpentine, carbon tetrachloride, or other thinner, evaporate upon application and do not

protect the floor. It is the solids remaining that do the protecting, and for that reason, deserve our attention.

If the solids in the floor materials are so hard and brittle that they will readily scratch and mar with foot traffic, the resulting finish will have very little durability. On the other hand, if the solids are so heavy in their mixture that the treatment will not permit even distribution, the product again will not be very durable in results. The same is true if the solid content separates from the so-called thinners.

The manufacture of a quality floor-treatment material is simple enough on paper but exceedingly difficult in practice. In general, the following three steps are followed: (1) The material is heated to liquify the solid content; (2) thinners are added to the liquified solids; (3) the mixture is processed through a grinding mill for the purpose of breaking down the wax or gum globules.

The third step is the most important in the process, a step that is invariably neglected in the manufacture of inferior treatments. Hydrocarbon oils, alcohol, turpentine, and other thinners will not dissolve wax or varnish gum.

When cold gasoline, naphtha, or turpentine, are added to the hot liquid wax or gums, the latter is congealed to form small globules. These globules must be broken up before the treatment is ready to be applied to the floors. If they are not broken,



In the middle of the 15th century, Gutenberg took the first proof from his printing press. His historical achievement was the result of knowledge properly applied.

In June, 1930, the Herman Nelson Corporation announced the first practical application of latest ventilating knowledge to the problem of schoolroom ventilation. An achievement of nation-wide importance!

Achievement

the result of **PROPER APPLICATION OF KNOWLEDGE**

KNOWLEDGE alone could never have produced the Her-Nel-Co System of Ventilation. It was *the proper application* of knowledge that made this system possible.

Scientists knew that the introduction of outdoor air into the schoolroom was necessary *only for the purpose of maintaining correct temperatures*. The Herman Nelson Corporation properly applied this knowledge and developed the Her-Nel-Co System.

Today, the Her-Nel-Co System is widely recognized as the standard for modern schoolroom ventilating practice — because it *produces the best ventilating results at the lowest final cost*.

You will be interested in the story of this achievement in schoolroom ventilation. Write for the book, "Her-Nel-Co System of Ventilation."

THE HERMAN NELSON CORPORATION, MOLINE, ILLINOIS

HERMAN NELSON

Her-Nel-Co SYSTEM OF VENTILATION

The Herman Nelson Corporation are Originators and Pioneers of Univent Ventilation, the Her-Nel-Co System of Ventilation, the Invisible Radiator, and other heating and ventilating innovations that have received world-wide recognition.

Belfast, Me.
Portland, Me.
Boston, Mass.
Melrose, Mass.
Barrington, R. I.
New York, N. Y.
Schenectady, N. Y.
Syracuse, N. Y.
New Rochelle, N. Y.
Cranford, N. J.

Buffalo, N. Y.
Rochester, N. Y.
Philadelphia, Pa.
Allentown, Pa.
Harrisburg, Pa.
Erie, Pa.
Johnstown, Pa.
Pittsburgh, Pa.
Wheeling, W. Va.

Factory at Moline, Illinois. Sales and Service Offices:
Washington, D. C.
Richmond, Va.
Roanoke, Va.
Charlotte, N. C.
Cleveland, Ohio
Cincinnati, Ohio
Nashville, Tenn.
Memphis, Tenn.
Chattanooga, Tenn.
Knoxville, Tenn.
Miami, Fla.
Birmingham, Ala.
Indianapolis, Ind.
Evansville, Ind.
Detroit, Mich.
Milwaukee, Wis.
Appleton, Wis.
Chicago, Ill.

Peoria, Ill.
St. Louis, Mo.
Des Moines, Ia.
Minneapolis, Minn.
Duluth, Minn.
Omaha, Neb.
Emporia, Kans.
Dallas, Texas
Salt Lake City, Utah

Spokane, Wash.
Seattle, Wash.
Denver, Colo.
Phoenix, Ariz.
Portland, Ore.
San Francisco, Cal.
London, England
Calgary, Alberta
Vancouver, B. C.

Winnipeg, Manitoba
Toronto, Ontario
Osaka, Japan
Oslo, Norway
Buenos Aires, Argentina
Melbourne, Australia
Athens, Greece
Shanghai, China
Barcelona, Spain

A ROBOT FOR YOUR SCHOOL!

The modern school needs a robot . . . A robot that will achieve economy with increased efficiency in school administration.



Put this helpful "Standard" Electric Robot to work in your schools.

"Standard" Electric Products collectively form a robot of great effectiveness in accomplishing the desired result.

ELECTRIC TIME EQUIPMENT
AUTOMATIC PROGRAM BELL RINGING
FIRE ALARM EQUIPMENT
TELEPHONE SERVICE
LABORATORY EXPERIMENTAL PANELS

Perfected and standardized through the experience of nearly half a century.

THE STANDARD ELECTRIC TIME COMPANY SPRINGFIELD, MASSACHUSETTS

ATLANTA, 144 Elizabeth St., N. E.
BALTIMORE, Baltimore Trust Bldg.
BIRMINGHAM, 2920-7th Ave., So.
BOSTON, 10 High Street
BUFFALO, 220 Delaware Ave.
SCRANTON, 148 Adams Ave.

CHICAGO, Monadnock Bldg.
COLUMBUS, 83 South High St.
DALLAS, Mercantile Bldg.
DENVER, 562 Pennsylvania St.
DETROIT, Donovan Bldg.

KANSAS CITY, MO., Mutual Bldg.
MINNEAPOLIS, McKnight Bldg.
NEW YORK CITY, 50 Church St.
PHILADELPHIA, Architects' Bldg.
PITTSBURGH, Bessemer Bldg.

TAMPA, 5505 Central Ave.

THE STANDARD ELECTRIC TIME CO. OF CALIFORNIA, 950 Parker Street, BERKELEY, CALIF.
LOS ANGELES, 124 West 4th Street

THE STANDARD ELECTRIC TIME CO. OF CAN., LTD.,

726 St. Felix St., MONTREAL, P. Q., CAN.

"STANDARD MAKES EVERY MINUTE COUNT"

School Law

School-District Taxation

A city school board's appropriation for a purpose not expressly named in the statute must be reasonably germane to the interest of the schools (Ky. constitution, §§ 3464, 3474, 3478; and constitution, § 184).—*Board of Education of Bowling Green v. Simmons*, 53 Southwestern reporter (2d) 940, 245 Ky. 515.

The transfer of a school warrant by an insolvent bank to the depositor in part payment of a deposit demand was held good as against the issuing district, except as to the nominal residue of the deposit existing at the time of the transfer and not withdrawn, but good as to the deposits subsequently made (S. Dak. revised code of 1929, §§ 742, 2307).—*Tattersfield v. Independent School Dist. of Flandreau*, 245 Northwestern reporter 51, S. Dak.

A school district's power under the constitution and statute to issue refunding bonds carries with it power to levy sufficient taxes for their payment (Fla. laws of 1931, ex. sess. c. 15772; Fla. constitution, art. 9, § 6, as amended in 1930).—*State v. Special Tax School Dist. No. 5 of Dade County*, 144 Southern reporter 356, Fla.

A city charter was held not to limit a tax levy for school expenses to \$42 for each pupil enrolled in the previous school year, where the council ratified the estimate, without modification (N. Y. Laws of 1923, c. 660, § 117).—*Watertown Improvement and Construction Co. v. City of Watertown*, 260 N. Y. Sup. 209.

A city could be compelled to pay to the school-district taxes assessed against personal property in the district which the city treasurer through negligence, failed to collect (Mich. complete laws of 1929, §§ 3434, 3438, 3446, 3447, 3485, 3500).—*School Dist. of City of Lansing v. City of Lansing*, 245 Northwestern reporter, Mich.

A taxpayer must act with reasonable promptness to prevent the school district's unlawful expenditure.—*Scheschy v. Binkley*, 245 Northwestern reporter 267, Nebr.

A taxpayer could not recover in an accounting suit for monies paid under a district's illegal contracts with officers, where it was not shown that the amounts paid were unreasonable, or that the district failed to benefit (Mich. complete statutes of 1929, § 79-513).—*Scheschy v. Binkley*, 245 Northwestern reporter 267, Nebr.

Teachers

A charter provision for the classification of teachers,

heads of departments, principals, etc., as permanent employees after service for a probationary period, was held authorized under a state tenure law (Calif. statutes of 1931, p. 3057, § 135; Calif. school code, 5.405, 5.501, reenacted as 5.502 by the Calif. statutes of 1931, p. 1395).—*Anderson v. Board of Education of City and County of San Francisco*, 15 Pacific reporter (2d) 774, hearing den (sup.) 16 Pacific reporter (2d) 272, Calif. App.

Under the Illinois statute, Cahill's revised statutes of 1931, c. 132, par. 137, a board of education for a sufficient cause and upon a proper showing, has the same right to remove a school superintendent as it has to remove a teacher.—*Borden v. Board of Education of School Dist. No. 41, DuPage County*, 264 Ill. App. 1.

A board of education has no right to determine arbitrarily whether the dismissal of a school superintendent is in the best interests of the schools.—*Borden v. Board of Education of School Dist. No. 41, DuPage County*, 264 Ill. App. 1.

A school superintendent was entitled to a hearing upon the question of whether the interests of the schools required that he be dismissed.—*Borden v. Board of Education of School Dist. 41, DuPage County*, 264 Ill. App. 1.

A school superintendent suing for salary due him after dismissal by a board of education was entitled to judgment upon proof of his contract and that he was ready, able, and willing to perform it, but was prevented from performing because of his discharge, unless it was shown that he was lawfully discharged in the interests of the schools, which was not done.—*Borden v. Board of Education of School Dist. No. 41, DuPage County*, 264 Ill. App. 1.

A teacher in a district having a local teachers' retirement fund, though not a member of the local fund, nor applying for membership in the state fund before May 1, 1924, automatically became a member of the state fund when employed by a district having no local fund (Rem. complete statutes supplementary of 1927, § 5020-8 to 5020-10; Remington complete statutes, 4995-5019).—*Moore v. Board of Trustees of State Teachers' Retirement Fund*, 16 Pacific reporter (2d) 195, Wash.

Employment as a regular substitute teacher of a district was held "teaching in the public schools of the state" within the state teachers' retirement fund act, entitling a member of the fund to time credit for such past service (Remington complete statutes supplementary of 1927, § 5020-17).—*Moore v. Board of Trustees of State Teachers' Retirement Fund*, 16 Pacific reporter (2d) 195, Wash.

A substitute teacher in a district having a local retirement fund, though not a member of a local fund, was held entitled, upon being employed by a district having no local fund and automatically becoming a member of the state fund, to time credit for period employed, as a substitute teacher (Remington complete statutes supplementary of 1927, 5020-10, 5020-17; Remington complete statutes §§ 5001, 5003).—*Moore v. Board of Trustees of State Teachers' Retirement Fund*, 16 Pacific reporter (2d) 195, Wash.

Pupils

A school board was held to have power to create the position of school nurse and teacher of health and physical education and to make an appropriation therefor, if in its sound discretion this was for the interests of the schools (Ky. statutes, §§ 3464, 3474, 3478; Ky. constitution, § 184).—*Board of Education of Bowling Green v. Simmons*, 53 Southwestern reporter (2d) 940, 245 Ky. 515.

A city school board cannot itself raise revenue to defray the school expenses, but may make an appropriation out of school funds in its hands not otherwise appropriated by law (Ky. statutes, §§ 3464, 3474, 3478).—*Board of Education of Bowling Green v. Simmons*, 53 Southwestern reporter (2d) 940, 245 Ky. 515.

Statutes controlling the qualifications of teachers were held inapplicable to the position of school nurse and teacher of health and physical education.—*Board of Education of Bowling Green v. Simmons*, 53 Southwestern reporter (2d) 940, 245 Ky. 515.

In order for a school to be within a system of "free public schools" required by the constitution, the establishment and control must be vested in public officials charged with the duty of establishing and supervising that system of schools (Miss. constitution of 1890, § 201).—*State Teachers' College v. Morris*, 144 Southern reporter 374, Miss.

"Schools," within the constitutional provision respecting the establishment of schools of higher grade, are those which are part of a uniform system of free public schools supported from common school funds (Miss. constitution of 1890, § 201).—*State Teachers' College v. Morris*, 144 Southern reporter 374, Miss.

School-District Government

If school committeemen acted corruptly or maliciously in employing the driver of a school bus who lost control of a bus, resulting in the death of a child, they became personally liable for damages.—*Betts v. Jones*, 166 Southeastern reporter 589, N. C.



SEALEX *Wall-Covering*

A remarkable new wall-covering with a unique combination of good qualities. It need never look soiled—because it is stain-proof and washable. Cannot fade or crack—therefore never needs to be “done over.” Lasts the life of the building in which it is installed. Offered in many luxurious patterns that rival the most costly walls in beauty.

Modernize...economically

HOW to accomplish a lot on a limited modernizing budget? Seton Hall College, South Orange, N. J., found the best answer to that timely question. They discovered that fine floors of Sealex Linoleum cost much less today than two years ago.

The illustration above shows how markedly this relatively inexpensive improvement “tones up” old interiors. The pattern chosen was a dark brown Sealex Veltone, richly veined in tan and black. In the foreground is the crest of the Seton family, cut out by hand from Sealex Linoleum.

In every respect Sealex Linoleum makes an ideal school floor. This material is *really resilient*—quiet and comfortable to walk on. Our exclusive Sealex Process makes it sanitary, stain-proof and easy to

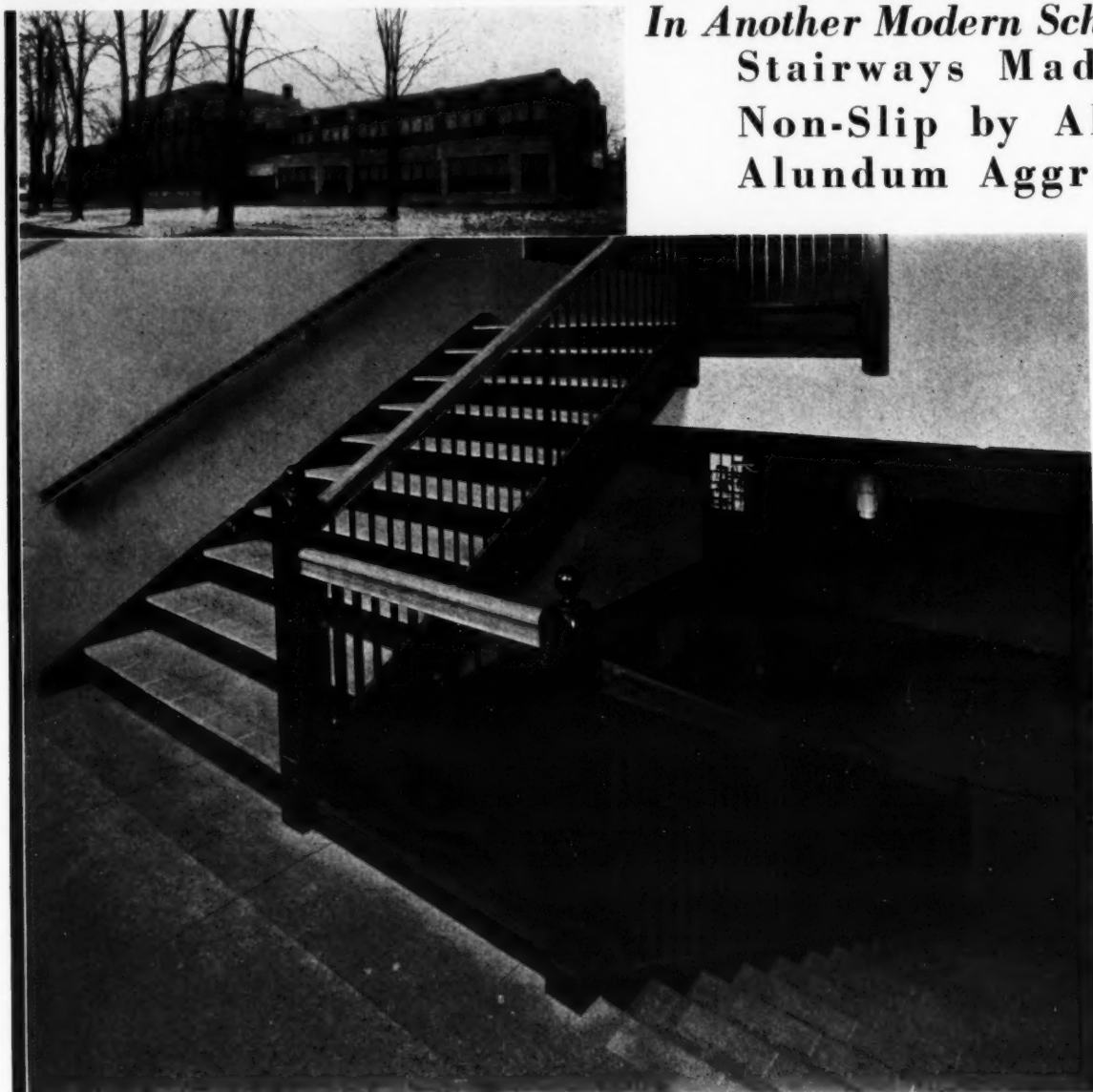
clean. Its durability has been proved in hundreds of the nation's finest schools and universities.

Right now is the strategic time to do modernizing work. Why not, at least, get some estimates? We can assure you that the low cost of modernizing with Sealex materials will pleasantly surprise you.

When Sealex materials are installed by an authorized contractor of Bonded Floors or Bonded Walls, they are backed by Guaranty Bonds. Write our Architectural Service Department for further information.

CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY

SEALEX
REG. U. S. PAT. OFF.
LINOLEUM FLOORS



In Another Modern School— Stairways Made Permanently Non-Slip by Alundum Tile and Alundum Aggregate

STAIRWAY accidents will be few and stairway maintenance will be low in the new Garfield School at Wyandotte, Michigan. The architects (D. C. Wetzels & Co., Detroit) assured permanent safety and exceptional resistance to wear by using nosings of Alundum Stair Tile on the treads and terrazzo containing Alundum Aggregate on the landings and in back of the tile.

NORTON COMPANY
WORCESTER, MASS.



T-332

School Finance and Taxation

REPORT REDUCTION IN PER-CAPITA COST OF EDUCATION

The United States Office of Education, in a recent report on school costs, shows how the schools of the country are cooperating in reducing the per-capita cost of education. The estimates are based on data supplied for a special study and indicate that the cost of education per child per day in school has been cut 14 cents since 1929-30. This means a decrease in per-capita cost of 22 per cent in three years.

The report shows that, in 1930, the average cost per child per day of educating a child in the elementary and high schools was 62.8 cents. In 1933, the figure had been lowered to 48.7 cents. Of the 48.7 cents, 4 cents go into buildings and improvements; 44.7 cents into salaries, supplies, and other current expense.

Comparative figures for other years show that the decrease in 1933 is carrying per-capita costs to a lower level than for any year since 1922. The average daily cost of educating a child in 1922 was 51.1; in 1920, it was 38.9 cents per child.

In 1920, the report shows, when the average per-capita cost was 38.9 cents, only 10 per cent of the school enrollments were high-school pupils. In 1930, the proportion had risen to 17 per cent, and it is at present about twice as high as it was in 1920. This means that, while the per-capita cost for 1933 (48.7 cents) is 10 cents more than for 1920 (38.9), part of the increase is due to the greater percentage of high-school pupils.

ST. LOUIS SCHOOL SYSTEM ON SOUND FOOTING

The St. Louis board of education, within the past year, dedicated four fine large school buildings, paid out of current revenues. No money was borrowed, no bonds were issued. In discussing the finances of the school system, A. S. Werremeyer, chairman of the finance committee of the board of education, recently said:

"It is remarkable that while many school systems are floundering in debts, appealing to public and private agencies for help, shortening the school terms, paying employees with tax warrants instead of cash, the St. Louis public schools have been operated on a cash basis without a deficit, and with a cash balance

on the first of this December of \$600,000 more than that of a year ago. Better still, no essential part of the school system has been discontinued. Health service, recreational activities, vocational education, evening schools, and the numerous kinds of special schools are all in progress. High-school enrollment this year is 10 per cent higher than it was last year. The school term is still 40 weeks; and the educational standards have not been sacrificed. The board of education and every department under it are exercising rigid economy in management, but always with due regard for the welfare of the schools and the children of St. Louis. While living within its income, the school system is keeping up the high quality of its educational program.

"The tax rate of 85 cents assessed in St. Louis for school purposes is a lower tax rate than most cities in the United States pay to maintain public schools. The total cost of the school system in St. Louis is less than \$15 per inhabitant each year. It is less than one fourth of the total amount expended in St. Louis during the year for the purchase and operation of passenger automobiles; it is much less than the cost of luxuries; and yet, with this money the board of education is serving every educational need of the community. It is building the finest and most substantial school buildings of which any city can boast. It is paying all bills out of the current revenue without mortgaging its future wealth and income. The citizens of St. Louis should feel justly proud of this achievement."

FINANCE

♦ Glendale, Ohio. At a recent meeting of the board of education, Mr. Samuel E. Burr, clerk of the board, presented a report, in which he showed a balance of \$10,671 in the general fund, and \$6,572 in the bond-and-interest account. This is slightly above the balance reported a year ago, despite the fact that none of the salaries have been cut, and one new teacher has been added to the staff.

♦ Minneapolis, Minn. The board of education has voted to make no exceptions in the general 15-per-cent salary cut for teachers and janitors. Under the plan, the first \$500 of each salary is exempt from the salary cut. The action rescinds a previous motion that janitors be given a pay cut of only 3½ per cent in 1933.

♦ Akron, Ohio. The board of education closed the calendar year with a balance of approximately \$280,000 in the treasury. Of the amount, \$80,000 will be used for the bond-and-interest account, leaving a balance of \$200,000 available for operation in 1933. The condition of the finances for the remainder of the year 1933 will depend upon the amount of taxes to be collected for the schools.

♦ West Point, Nebr. The board of education has reduced its 1933 budget by approximately \$7,700. The reduction was effected by cuts in teachers' salaries, curtailment of departments, and other economies.

♦ Chicopee, Mass. The last fiscal year closed with a favorable balance of \$12,566 in the school treasury. The school board expended \$73,000 less in 1932 than in 1931. Expenditures for repairs to buildings during the year amounted to four tenths of one per cent of their estimated valuation. All school employees made voluntary salary contributions of two weeks, which amounted to \$23,133. No drastic reductions were made in the new budget estimate for 1933.

♦ The board of education of Texas City, Texas, has made a number of economies in school expenses for the school year. The work of the secretary of the board has been taken over by the superintendent of schools, the high-school principal has been placed on a half-time teaching basis, school-building projects have been suspended, and a decision was made against tax reductions.

♦ The Texas State Board of Education, in its report to the governor, has called attention to the necessity for raising \$9,000,000 to balance the state school fund. It was pointed out that the available school fund faces a deficit of more than \$5,000,000 by August 1. To meet the situation, approximately \$5,750,000 must be appropriated from the general revenue, and another \$3,500,000 must be obtained from some other source to offset the loss of income through the homestead amendment.

♦ Vancouver, Wash. The school system is in a fairly satisfactory condition, despite the present trying times. The school warrants have been cashed, a \$100,000 bond issue to take up previous warrants has been issued, and the schools are at present operating on a 6-mill special levy voted by the people last December. Tax delinquencies are estimated at 27 per cent, which will leave approximately \$30,000 outstanding at the end of the year.

♦ Pittsburgh, Pa. The board of education has accepted the reports of the citizens' committee and the educators' committee which investigated the school situation. The reports refuted in detail, every criticism directed at the school board and its administrative officers. The citizens' group upheld the 11¼-mill school levy for this year, but held that a reduction should be made in 1934.

♦ St. Landry, La. The public schools have been enabled to operate for eight months and comply with state requirements, as a result of the sale of \$80,000

(Concluded on Page 50)



A WORLD WIDE LABORATORY

A hotel bordering the blazing Sahara, a luxurious Paris-to-Berlin express, plantations high in the Andes, sleek liners proudly plowing the Seven Seas—these are but a few examples of the far-flung laboratory in which Wyandotte Products are daily proving their superlative efficiency and economy.

Cleaning is an ever-present and never-ending job the world over. Yet the scientific development of specialized cleaners and cleansers has immeasurably lessened cleaning labor and expense. That is why Wyandotte enjoys world-wide popularity.

To bring your cleaning problems to The J. B. Ford Company is to bring them to Cleaning Headquarters, for over a third of a century the world's largest manufacturers of specialized cleaning materials.

Back of every pound of Wyandotte is a definite guarantee that you must be satisfied or the purchase price will be refunded.

THE J. B. FORD CO. - - WYANDOTTE, MICHIGAN



The J. B. Ford Co.,		Dept. H-31
Wyandotte, Michigan		
Please give me full details on Wyandotte Specialized Cleaners and Cleansers.		
Name.....		
Title.....		
Address.....		
City..... State.....		

Liqua-San "C" Economy Concentrates on Extra Savings



LIQUA-SAN "C" 40% Concentrated Liquid Soap

If you are tempted to choose a liquid toilet soap merely because of low price, it will pay you to stop a minute and ask yourself these questions.

Does it contain 40% of concentrated anhydrous soap—the most economical form of liquid soap you can buy, for you add the water yourself—or does it contain 80 to 90% water on which you are obliged to pay freight costs?

Does each gallon give 9600 handwashings as does Liqua-San "C", or does it give only the 3200 of the ordinary liquid soap?

Does it cut water costs by instant lathering and rinsing?

Is it made of Edible Cochin Coconut Oil and American Potash, under rigid laboratory control, so that every drop of soap is utilized in washing—or is it made of cheap ingredients and impurities which do not cleanse?

Liqua-San "C" alone answers these questions in the way this year's budgets demand that they be answered. Only Liqua-San "C" assures you these extra savings and guarantees you the purest, most neutral and economical soap money can buy. Write today for the Liqua-San booklet.

The HUNTINGTON LABORATORIES, Inc.
HUNTINGTON, IND.

Canadian Plant
72 to 76 Duchess St.
Toronto, Ont.

Rocky Mt. Plant
1429, 18th St
Denver, Colo.

We manufacture a complete line of Floor Cleaning Compounds, Deodorizing Blocs, Crystals and Blockettes, Floor Dressings, Liquid Waxes, Insecticides, Deodorants, Plumbing Cleansers, Disinfectants and the famous gym floor finish Seal-O-San.

(Concluded from Page 48)

of certificates of indebtedness. As a result of the sale, teachers received \$60,000 in cash and the school system will operate on a cash system during the remainder of the school year.

♦ Baltimore, Md. The school board has taken the first steps in its drastic economy program to meet 1933 budget cuts. The changes include reassignment of administrators and supervisors, dismissal of substitute teachers and stenographers, elimination of positions in the business and building departments, and the introduction of a new share-the-work plan for school-building employees.

The board also adopted changes governing the elimination of students from high and elementary schools who are found deficient in their studies or repeatedly truant. All night schools, with the exception of the evening high school, have been closed for the school year.

♦ School boards of Michigan City, Long Beach, and Laporte, Ind., will start court action shortly to compel the Laporte county council to appropriate \$5,000 for the payment of attendance officers. In the past, attendance officers have been employed by the school boards, and their counsel, H. W. Worden, contended that the state law requires the council to appropriate the salaries.

♦ Detroit, Mich. The mayor recently commended Supt. Frank Cody for his management of the schools and the teaching staff for its acceptance of pay cuts. He maintained that the school system must be conducted without too great concessions to economy, but with due regard to the dangers of overeconomizing and paying too heavily in the long run. The schools are being operated the full nine months this year, with reduced pay for the teachers and an enrollment of 7,000 additional children.

♦ Galveston, Texas. The school board has undertaken plans for a general reduction in the salaries of teachers and officials, cuts in operating costs, and elimination of the kindergarten department by placing it on a self-sustaining basis. The cuts which become effective next September, will involve a saving of from \$65,000 to \$70,000 in school operating costs.

♦ The Chicago board of education has adopted a budget for 1933 amounting to \$71,549,701. Teachers and all other school employees, with the exception of those who draw less than \$1,000 yearly, will be cut 15 per cent. The new budget reduces the appropriations for teachers' salaries by approximately \$2,000,000. The building fund is cut \$3,000,000, and the total educational fund appropriation \$2,000,000.

♦ The board of education at Newark, N. J., has

adopted a budget which represents a cut of \$1,043,000 from departmental requests.

♦ Dubuque, Iowa. The board of education has cut its annual budget for 1933-34 by \$100,000. Of the total cut, \$70,000 will be possible by a 10-per-cent reduction in the salaries of all school employees who receive \$100 per month or more.

♦ New Bedford, Mass. The school board has discussed proposed measures for effecting a reduction of \$133,000 in its expenditures for the next school year.

♦ Amesbury, Mass. The cost of education per pupil in the public schools has decreased 10 per cent, while the cost of education in the state has increased 30 per cent, according to the annual report of the school board recently issued.

The report showed that 9 per cent of the population was in school twenty years ago and the schools received 21 per cent of the total town appropriation. Last year, 12 per cent of the population was in school and the schools received 26 per cent of the appropriation.

♦ Lynn, Mass. The school board has acceded to the demand for a substantial cut in the local school budget. The reduction will effect a cut of 22 cents in the tax rate for the year, with a 45 cent decrease in sight on schools alone. The total estimated budget for 1933 is \$1,477,157, which is a cut of \$29,918 from the estimate of \$1,507,075 and a cut of 22 cents from the tax rate.

♦ Westerly, R. I. The school board has voted to cut the 1933 budget to \$160,000. The saving was made possible due to the fact that there was a balance of \$4,400 remaining from last year. The board pointed out that it is taking a cut of \$6,000 this year, due to the fact that there will be no saving on insurance as was made last year.

♦ Northampton, Mass. The school board has voted to make a number of economies in school expenditures, which will effect a reduction of \$8,000 in the budget for 1933.

♦ Chicopee, Mass. The school board has adopted a tentative budget of \$558,925 for the year 1933, which is a reduction of \$27,185 from the estimate of 1932. The board has asked all permanent school employees to contribute 10 per cent of their salaries for the fiscal year. The new budget will effect a reduction of \$80,000 in the local tax levy for the school department.

♦ Somerville, Mass. The school board has adopted an economy program, calling for an appropriation of \$1,187,321 for teachers' salaries, \$85,600 for school contingent, and \$9,000 for outside tuition. While the budget is approximately \$128,000 more than the mayor had set up as the departmental budget, the board was

able to effect a saving of more than \$25,000 in expenditures, without discontinuing any essential activity and without hampering the efficiency of the administration of the schools.

♦ West Allis, Wis. The school board has appointed three committees to make a complete fact-finding survey of the schools. The committees will make recommendations for substantial reductions in activities or courses which are least essential.

♦ Newburyport, Mass. The school board has adopted a budget of \$167,290 for the school year 1933, which is a reduction of 5 per cent, exclusive of salaries. No salaries were cut, but the appropriation for school supplies was reduced from \$4,500 to \$2,327.

♦ Houston, Texas. The school board has adopted a budget of \$4,300,000, which is a reduction of \$200,000 from the estimate of 1932. The new budget provides \$3,073,097 for salaries, as compared with \$3,233,097 allowed for this item last year.

♦ Minneapolis, Minn. The school board has voted to borrow \$500,000 in order to pay teachers' salaries.

♦ Knoxville, Tenn. The school board has adopted an economy program which is intended to save \$40,000 per annum. The new program provides for a longer school day for teachers, the elimination of the planning period in platoon schools, and the addition of fifteen minutes a day to all departmental grammar schools. The purpose of the program is to reduce the number of failing pupils, who are costing over \$40,000 annually.

♦ Detroit, Mich. The mayor of the city has ordered a reduction of \$2,179,000 from the budget of \$20,698,827 presented by the board of education. The new budget, as revised, calls for \$12,088,000, the reduction being accomplished by an increase in the estimates of credits, following a report made by State Supt. W. H. Pearce on anticipated revenues in the primary-school fund.

♦ Naugatuck, Conn. Supt. H. E. Chittenden recently reported to the school board that a balance of approximately \$15,000 will remain in the treasury at the close of the fiscal year in March. The superintendent and members of the board were given credit for the remarkable showing, coming after a reduction of close to \$22,000 in the budget.

♦ Boston, Mass. The school board has voted an additional appropriation of \$40,212 for the completion of the new Jeremiah Burke High School in Dorchester. The original appropriation for the building was \$920,000, but the cost to date has reached \$1,060,000, due to unforeseen difficulties in constructing the foundation.

How modern schools CUT CLEANING COSTS

IN hundreds of modern schools, Armstrong's Linoleum Floors are cutting cleaning costs . . . helping to pay for themselves with the money they save. Even in small schools this saving is appreciable . . . and in any school it is important in these days of reduced budgets.

Cover old splintery, dirt-catching floors with new Armstrong's Linoleum. Replace laborious cleaning with quick brushing and occasional waxing! Cross out of your annual budget the item for scraping, sanding, and restoring your wood floors.

Armstrong's Floors aid study, too. They hush the scuff-scrape-shuffle in classrooms, and the clatter of feet in corridors. Pupils' attention improves . . . better work results.

There's a lot more to the Armstrong



story. Just mail the coupon for your copy of our book telling a complete story of floors that every school board ought to know. It's free.



Armstrong's
LINOLEUM FLOORS
for every school and college

**A "CINCH" FOR
THE JANITOR,
A SAVING FOR YOU!**

Armstrong Cork Company, Floor Division
1212 State St., Lancaster, Pa.

- ☐ Please send me free your book on school floors.
☐ I am also interested in acoustical treatments.

Send your book "Armstrong's Acoustical Products."

Name
Address
City..... State.....

Book News

A Method of Procedure and Checking Schedule for Planning School Buildings

By John J. Donovan. Cloth, 355 pages. Price, \$6.50. The Bruce Publishing Company, Milwaukee, Wis.

The vast amount of detail and multiplicity of items involved in the planning of a modern school building makes the task of anticipating all of them a superhuman task, unless the planner has at his command a comprehensive check list—a list that is all-inclusive. Many expensive school buildings, even of recent construction, have fallen far short of what had been expected of them for the lone reason that a satisfactory checking schedule had not been applied in advance of planning.

The Donovan Checking Schedule makes a distinct contribution to the field of schoolhousing. Its use by school executives and architects will go far in the improvement of buildings, both from the standpoint of structural quality and educational service. If the schedule is carefully followed, no detail, however minute, can possibly be overlooked; "extras" will be reduced to a minimum and greater efficiency will result.

The Checking Schedule completely filled in will serve not only as a basis of planning, but as a comprehensive understanding between the owner and architect as to what the building is to comprise, thus eliminating the possibility of unpleasant relationship arising out of misunderstandings. The checking schedule will also serve as a useful permanent record in the office of the architect and in the office of the board of education of each building erected. — *Frank W. Hart, Berkeley, Calif.*

Achievement in the Junior High School

By Bancroft Beatley. Cloth, 92 pages. Published by The Harvard University Press, Cambridge, Mass.

This book is one of a series of studies which aim to interpret various phases of educational theory and practice as applied to the junior high school.

The study covers the records of nearly 1,100 seventh-grade pupils tested by Dr. Mills in an endeavor

to prove the claims that too much time is spent on the fundamentals in the elementary grades, and that the junior high school might well reduce the time devoted to the fundamentals without sacrificing achievement.

The major conclusion of the study is that neither the traditional type of school nor the junior high school has demonstrated its superiority over the other in furthering gains in achievement in fundamentals. When the fact of the difference in emphasis on fundamentals is taken into account, it appears that the junior high school is justified in its assumption that by allotting less time than the unreorganized school to the subjects of reading, language, and arithmetic, it has not hampered the growth of pupils in the mastery of these fundamentals. However, the author is frank to say that the evidence offers no direct answers to the questions raised. The findings indicate only that there is no relative superiority of the junior high school or the nonjunior high school in achieving existing standards. The conclusions prove valuable in denying the claim that a reversion to the practices of the traditionally organized school is essential if higher standards are to be secured. In view of the findings of the investigation, it is doubtful whether higher standards in these schools could be attained by increasing the amounts of time allotted to the fundamentals.

The Typewriter in the Primary and Intermediate Grades

By Ralph Haefner. Cloth, 329 pages. The Macmillan Company, New York, N. Y.

The use of the typewriter has been taught as a vocational instrument in the high school for some years. Its introduction into the elementary school has raised all of the educational problems connected with any other piece of equipment.

This book has been prepared to serve as a guide from the kindergarten through the sixth grade and seeks to be of help to the teacher who will be responsible for the wise use of the typewriter by young children.

The book covers a wide variety of elementary-school problems related to the use of the typewriter. Almost every topic touched on in the book is worthy of much additional research. The author supports his general analysis of each subject, with the kind of material which teachers will find most useful—specific samples of work done by children who have used the typewriter.

Gifts to the Public Schools

By William R. Odell, Ph.D. Paper cover, 133 pp. Published by William R. Odell, New York City.

This constitutes, more particularly at this time, a most welcome volume. The higher institutions of learn-

ing have, from year to year, been the recipient of large sums of money, while the public and elementary and secondary schools have been less fortunate. The general belief that tax-supported institutions are not in need of private gifts has unquestionably led to this result.

The author demonstrates, however, that private generosity may become a splendid aid to publicly supported schools, and shows just what has and can be done in this direction. Before doing so, he points out that, while the American colleges and universities have received huge sums of money, the so-called public schools have received but a comparatively small sum.

He states, for example, that \$351,000,000 was donated to colleges and universities in 1929 alone, and \$70,500,000 was given to private secondary schools. A long list of donations conferred upon the elementary and secondary public schools in recent years is recorded but no totals are provided.

These donations vary from the most substantial to nominal articles. They include sites, buildings; gymnasium, stage, and laboratory equipments; radio sets, books, milk, etc.

The author believes that the reason the higher institutions have been blessed with larger donations is because such donations have been systematically solicited. On the other hand, he shows that the average school superintendent is not particularly donation-minded. In fact, through the use of a questionnaire the author has established the fact that there are school superintendents who do not favor donations.

Arithmetic Workbooks I to VI

By Clifford B. Upton. Paper. Books I to IV, 160 pp. each, 24 cents each; Books V and VI, 176 pp. each, 28 cents each. American Book Company, New York City.

A workbook for each grade from three to eight supplies the necessary drill as well as diagnostic tests, remedial work, and new features in problem solving. In Books V and VI are included business forms and geometric exercises. The problems employ devices to encourage thinking and also give special attention to the development of mathematical language skills.

Cooper's Last of the Mohicans

Edited by C. T. Crowther. Cloth, 634 pages. Price, 96 cents. Published by D. C. Heath & Company, Boston, Mass.

The introduction to this most widely read of Cooper's Leather Stocking Tales includes a careful study of Cooper as a man and as a writer. The book is very happily free from an excess of notes, and such as are provided in the appendix are amply complete for any high school. Valuable teaching material is included in a series of questions and theme subjects.

**"The most interesting, most
complete, most
convenient geography—"**

**"The best ever"
"The acme of
science and skill"**

Teachers unite in acclaiming

HUNTINGTON-BENSON-McMURRY LIVING GEOGRAPHY

Praise from all sides! New introductions and adoptions daily in schools in every section of the country. An enthusiastic reception has been accorded this series, whose improvements and innovations are setting unprecedented standards for the study of geography in elementary schools. Immediate recognition of its excellence has followed publication.

Thousands of children this year are studying the new geography—human-use geography—from these books. Are you fully informed about the merits of the series? Let your schools be among those to reap the benefits and pleasure of study from the Huntington, Benson, and McMurry geographies.

TWO-BOOK SERIES

Book I—How Countries Differ, \$1.20

Book II—Why Countries Differ, \$1.60

FOUR-BOOK SERIES

REGULAR EDITION

Book I, Part I	.92	Book II, Part I	1.12
Book I, Part II	.92	Book II, Part II	1.12

SPECIAL EDITION

Book I, Section I. The New World	.96	Book II, Section I. The New World	1.20
Book I, Part II	.92	Book II, Part II	1.12

THE MACMILLAN COMPANY, New York Chicago Boston Atlanta Dallas San Francisco

Standard Practices in Teaching

By William C. Bagley and Marion E. Macdonald. Cloth, 192 pp. Price, \$2. The Macmillan Company, New York City.

The expositions, discussions, precepts, and cautions given in this book are such as will interest and help any teacher. The authors deal with fundamentals in non-technical language. The book may well be recommended to the beginner in teaching and the layman who may be interested in learning something of modern educational practice, but experienced teachers will derive still more benefit from its study than will novices or amateurs. It would be a good textbook for a teachers' professional study club.

Besides a discussion and evaluation of the various older types of teaching there are some brief and clear expositions of such topics as The Project Method, Activities, Unit Teaching, and Self-Instruction. The final chapter on Professional Ethics is excellent. The introduction to the chapter on Class Management is about the only passage with which one may pick a mild quarrel. Dealing with the effect of education upon behavior, its connection with the chapter seems a little bit forced, and besides, some readers will question the extent to which the statements are accurate.

Effective Business Correspondence

By Robert Ray Aurner. Cloth, illustrated, 639 pp. South-Western Publishing Company, Cincinnati, Ohio.

Academic teachers as well as business teachers will appreciate the treatment that Professor Aurner has given his subject. In the first place, he makes it plain that business English is only ordinary English to which must be added a few words not ordinarily employed in literature as such. Business "lingo" he condemns without mercy. The style of the book is that of conversation with the pupil. The lessons are motivated by the use of up-to-date examples of actual situations. Grammar, composition, and punctuation are worked into the lessons in such a way as to convince the student of their necessity. The publishers state a Teachers' Manual will be supplied without charge.

Men at Work

By Lewis W. Hine. Cloth, quarto. Price, \$1.75. The Macmillan Company, New York.

To a long list of editors the photographer-author of this book is favorably known for his startling and valuable social photography, for pictures which portray American men and women and children in their daily home lives, occupations, recreation. These pictures are not always pleasant or complimentary, but they are invariably truthful, typical, and distinctly interesting.

In the present book the romance of the American structural-iron worker, the railroad worker, the miner, and the machinist are portrayed with fine pictorial effect and human interest. For the school library there could be no finer book to show boys and girls what manner of men form the brawn and brain of American industry of which they will some day be part.

Seeing the Museum

By Robert Disraeli. Cloth, 142 pages. Price, \$2. John Day Company, New York.

The microphotographs in this book are a distinct achievement, not only because of their clearness and scientific value, but especially because of their interest to children. The text is no less suggestive and useful. The book is a distinct help to teachers who are anxious to arouse in children a love for nature and an understanding of the marvels and mysteries which the Creator has woven into the smallest and least of things.

Objective Exercises—Units of Plane Geometry

By W. W. Strader and Lawrence D. Rhoads. Paper, 84 pp. The John C. Winston Company, Chicago.

This book offers in 33 units a complete series of basal learning and practice exercises and general diagnostic exercises. A rather comprehensive series of achievement exercises is provided in a separate pamphlet.

The work has been carefully developed so that the workbook can be used in connection with any basic text or course.

Standard Service Arithmetic Work Book

For grade schools. By G. M. Ruch, F. B. Knight, and J. W. Studebaker. Paper, 128 pp. Scott, Foresman & Company, Chicago, Ill. The newest addition of the Standard Mathematical Service Series.

The Adventures of Tom Sawyer

By Samuel Clemens. Paper, 254 pp. Price, 15 cents. The Jacket Library, published by the National Home Library Foundation, Washington, D. C.

A complete edition, published at a price that is within the reach of any school. The editor has wisely limited his service to a few minor changes to conform the book to present standards in spelling and punctuation.

Adventures Wise and Otherwise

By J. Grace Walker and Nell F. Bartels. Tablet form, 57 pp. Harcourt, Brace, and Company, New York City.

Adventures, Book I of Habits and Skills, is a textbook-workbook for the ninth-grade English class. There is a unit of work for each month based on the commonest difficulties. Style sheets, exercises, reviews, and tests are included. The home and school life of a family of high-school pupils supplies the subject matter for the exercises.

Bibliography on School Finance. Prepared by Carter Alexander and Timon Covert for the National Survey of School Finance. Bulletin No. 15, 1932, U. S. Office of Education, Washington, D. C. The bibliography lists all material published on the subject during the period from 1923 to 1931, in addition to some mimeographed material and some unpublished references

whose titles appeared promising. No worth-while phase of this at present troublesome subject has been overlooked.

Arithmetic Work Book. For grade eight. By G. M. Ruch, F. B. Knight, and J. W. Studebaker. Boards, 104 pages. Scott, Foresman & Company, Chicago, Ill.

This book has been prepared as a defense against forgetting arithmetical essentials while at the same time it encourages self-reliance and initiative in learning.

Part I of the book offers a program of thirty standard drills, with controlled distribution of practice. The pupil's scores, charted on progress records, give him an impartial picture of his progress from week to week. Part II is a complete remedial program, which indicates the pupil's difficulties and directs him to instruction and remedial drill which will overcome his faults. Space is provided for progress charts for indicating the progress of the pupil in the work.

A Study of Suburban School Salaries of Shorewood, Milwaukee, Wis., for the year 1932-33. A study of the salaries paid in certain residential suburban municipalities for the school year, made by a special salary committee of the school board. The special tabulations give detailed figures on nineteen comparable suburbs, of which Shorewood is one. The findings show that Shorewood pays its elementary teachers a median salary of \$132 more than the median salary paid in the eighteen other suburbs chosen for the study. Shorewood pays elementary teachers who receive the lowest 25 per cent of the scale, a higher salary than is paid in the other suburbs, as shown by the first quarter which is \$286 higher than the first quarter of the group. It also pays its junior-high-school teachers a median salary of \$100 more than the median paid in thirteen other suburbs. It pays its senior-high-school teachers a median salary of \$357 less than the average of the group of communities studied. Fewer high salaries are paid to senior-high-school teachers in Shorewood than in the group studied as shown by the upper quarter, being \$426 less for Shorewood than for the group.

The New Examination. Its construction and use. By James F. Bursch and H. Meltzer. Paper, 83 pages. Published by the Southern California School Depository, Ltd., Los Angeles, Calif. Instruments for measuring the results of teaching have been greatly improved during the past few years. At the present time instruments are available for measuring not only what the student has learned, but also what the student can learn. The present manual has been prepared by the authors to fill a need for a manual which will clearly and concisely point out the significant facts, techniques, and principles in the construction and uses of improved classroom tests. It takes up the characteristics of a good examination, how to make a new examination, how to interpret the results of an examination, and supplementary and special uses of the examination. Each separate chapter concludes with a list of selected references for reading. A brief selected bibliography on tests and testing will be found at the end of the booklet.

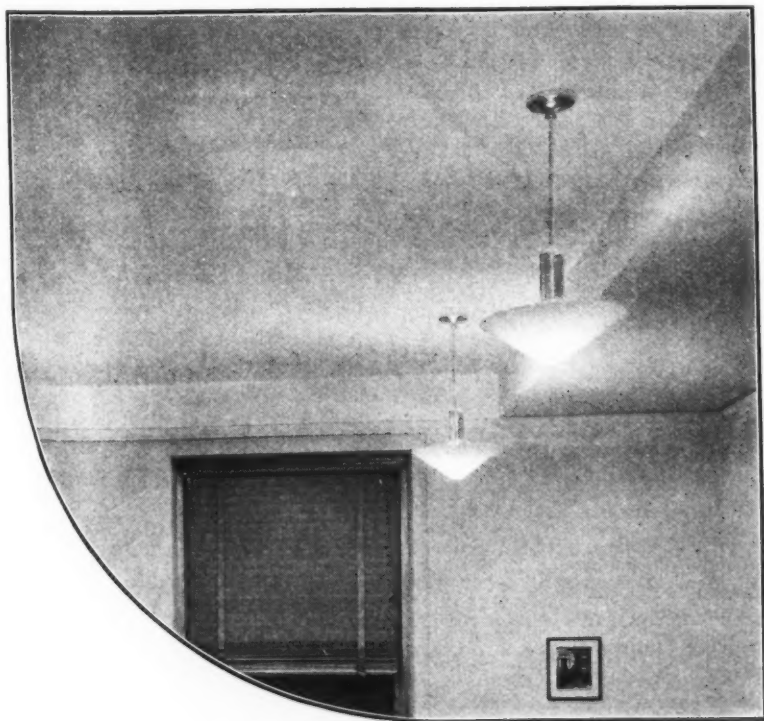
May Day—Child Health Day in 1932. Suggestions for 1933. Paper, 30 pages. Published by the American Child Health Association, 450 Seventh Ave., New York City. This pamphlet reports the highlights of accomplishment last year and uses these as the basis for suggestions for 1933.

SCHOOLS! TAXPAYERS! PUPILS!

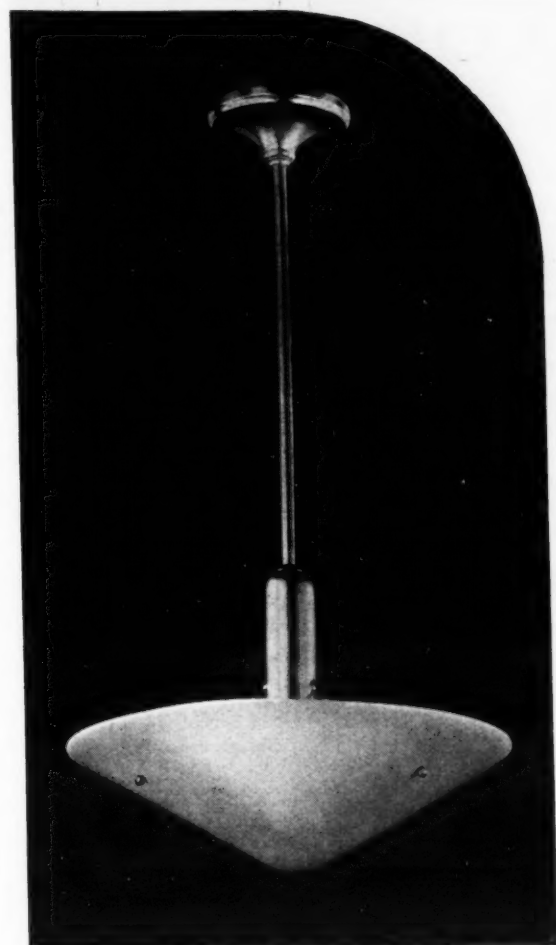
*-ALL profit
from good lighting*

FOR every pupil that fails, it costs the school and the taxpayer \$57. That is the average annual cost of teaching a grade-school child, according to the American City Bureau. And the loss to the pupil cannot be estimated; but in delaying his or her education, it will probably amount to many times that figure.

One of the major causes of classroom failures is inefficient Twilight Zone* lighting. Yet, because of its insidious nature, poor lighting often goes unnoticed.



Magnalux Luminaires distribute light evenly, without glaring brightness or dull shadows.



The Magnalux Luminaire. This beautiful fixture provides highly effective illumination for the classroom.

In a recent study, two student groups, which examinations showed to have practically equal ability, were assigned to separate rooms—one with lighting comparable to that found in most classrooms today, the other with adequate, automatically-controlled illumination. Of the group handicapped by inadequate lighting, 38 per cent failed—while only 14 per cent failed in the room with scientifically correct illumination.

In this instance, the money saved through fewer failures in the correctly lighted room covered the cost of the improved illumination.

Consider the savings in the years to come, and consider, too, the preservation of eyesight, for 8 to 15 per cent of the nation's children acquire defective vision during their school days.

A Westinghouse-planned installation of Magnalux luminaires, controlled by light-sensitive relays for automatic lighting during cloudy days, gives the best possible illumination. As the illustration shows, light from Magnalux luminaires is distributed evenly over the ceiling without glaring bright spots or irritating shadows. The entire ceiling becomes the source of light, radiating a flood of completely diffused, restful illumination.

*Twilight Zone—the deceptive half-light between obvious darkness and scientifically correct illumination.

Westinghouse

T 79477



Tune in the thrilling new Westinghouse mystery radio serial by OCTAVUS ROY COHEN . . . NBC Network

A CHECK LIST for Senior-High-School Buildings

(CONCLUSION)

Thomas J. Higgins, Assistant, Bureau of Building Survey, Chicago, Illinois

The present Check List for Senior High Schools has been used successfully in Chicago and is a most useful starting point for any careful study of a school building. The schedule should be used: First, when the preliminary studies are being made; second, when the architect has submitted the first drawings; third, when the final drawings and specifications are about to be accepted.—Editor.

TOOLROOM

Tool Rack
Steel Shelves
Storage Case

SUPPLY ROOM

Steel Shelves
Steel Bins
Storage Cases

ELECTRIC SHOP

Number
Number of Pupils
Location
Size
Ceiling Height
Glass Area
Kind of Glass
Type of Windows
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Wall
Size and Type of Glass in Doors

Transoms over Doors
Teachers' Case
Teachers' Desk Unit
Key Cabinet
Benches
Bench Units
Drawers Below
Battery Bench
Motor Generator
Switchboard
Lathe Buffer
Drill Sink
Writing Board
Corkboard
Type of Artificial Lighting
Telephone
Plug Receptacles
Gas Outlets
Clock

TOOLROOM

Tool Racks
Steel Shelving
Vault

SUPPLY ROOM

Steel Shelving
Steel Bins

PRINTSHOPS

Number
Number of Pupils
Location
Size
Ceiling Height
Glass Area
Kind of Glass
Type of Windows
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Wall
Size and Type of Glass in Door
Transoms over Doors
Teachers' Case
Teachers' Desk Unit
Key Cabinet
Special Cases
Chase Racks
Imposing Table
Drying Rack
Cutter
Stapler

Galley Cabinet
Worktables
Presses
Sink
Writing Board
Corkboard
Type of Artificial Lighting
Telephone
Plug Receptacles
Clock

STOREROOM

Paper-storage Cases
Shelving

EDITORIAL ROOM

Table
Magazine Rack
Files
Corkboard

WOODSHOP

Number
Number of Pupils
Location
Size
Ceiling Height
Glass Area
Type of Windows
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Walls
Size and Type of Glass in Doors
Transoms over Doors
Teachers' Case
Teachers' Desk Unit
Teachers' Wardrobe
Special Cases
Key Cabinets
Number of Benches
Lathes Pony Jointer
Band Saw Grinder
Sink
Writing Board
Corkboard
Type of Artificial Lighting

Plug Receptacles
Clock

FINISHING ROOM

Bench
Glue Bench

TOOLROOM

Shelves
Cases

LUMBER-STORAGE ROOM

Racks
Circular Saw
Planer

FORGE SHOP

Number
Number of Pupils
Location
Size
Ceiling Height
Glass Area
Type of Windows
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Wall
Transoms over Doors
Teachers' Cases
Teachers' Wardrobe
Teachers' Desk Unit

Number of Forges
Fuel Grinder
Anvils Shears
Power Hammer
Drill Press
Bending and Testing Machine
Gas-heating Furnace
Electric-heating Furnace
Electric Crucible
Gas Crucible
Sink
Writing Board
Corkboard
Type of Artificial Lighting
Plug Receptacles
Clock

WELDING

Power Shears
Electric Welders
Gas Welders
Metal-covered Benches

MECHANICAL-DRAWING ROOM

Number
Number of Pupils
Orientation
Size
Ceiling Height
Glass Area
Kind of Glass
Type of Windows
Unilateral
Height of Sill above Floor
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Wall
Size and Type of Glass in Doors
Transoms over Doors
Number of Desks
Teachers' Cases
Special Cases
Drawing-board Storage
Sink
Instructors' Drawing Table
Writing Boards
Color Material
Number of Lineal Feet
Corkboard
Type of Artificial Lighting
Telephone
Plug Receptacle for Lantern
Radio Outlet
Clock

BLUE-PRINT ROOM

Blue-print Machine
Washer
Paper-storage Case

GENERAL METAL SHOP

Number
Number of Pupils
Size
Ceiling Height
Glass Area
Type of Windows
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Wall
Transoms over Doors
Teachers' Case
Special Cases
Teachers' Wardrobe
Recessed
Number of Benches
Revolving Stands
Shears
Counter
Sink
Writing Boards
Color Material
Number of Lineal Feet
Corkboard
Type of Artificial Lighting

Telephone
Plug Receptacles
Gas Outlets
Radio Outlet
Clock

HOME-MECHANICS SHOP

Number
Number of Pupils
Size
Ceiling Height
Glass Area
Type of Windows
Kind of Floor
Kind of Walls
Number of Doors to Corridor
Recessed in Corridor Wall
Transoms over Doors
Teachers' Case
Special Cases
Teachers' Wardrobe
Key Cabinet
Number of Benches
Shears Grinder
Counter Lathe
Band Saw
Sink
Writing Boards
Color Material
Number of Lineal Feet
Corkboard
Type of Artificial Lighting
Telephone
Plug Receptacles
Gas Outlets
Radio Outlet
Clock

BAND AND ORCHESTRA ROOM

Number
Number of Pupils
Location
Size
Ceiling Height
Glass Area
Type of Windows
Kind of Floor
Kind of Walls
Sound-absorbing Material in Walls and Ceiling
Teachers' Case
Teachers' Wardrobe
Instrument Cases
Writing Boards
Ruled
Corkboards
Unit Type of Heating and Ventilating
Telephone
Plug Receptacle
Radio Outlet
Clock
Small Rooms for Individual Instruction

CHORUS ROOM

Number
Number of Pupils
Location
Size
Ceiling Height
Glass Area
Type of Windows
Kind of Floor
Kind of Walls
Sound-absorbing Material in Walls and Ceiling
Number of Seats
Type
Raised Platforms
Teachers' Case
Teachers' Wardrobe
Writing Board
Ruled
Corkboard
Unit Type of Heating and Ventilating
Telephone
Plug Receptacle
Radio Outlet
Clock

HEATING AND VENTILATING

Method of Heating and Ventilating
Building Heated and Ventilated in Units
Boiler Room
Location
Fireproof
Kind of Boilers
Coal Storage
Stokers
Fans
Kind of Power
Thermostatic Control
Air Washer
Humidifier
Height of Fresh-Air Intake above Ground

SPECIAL FACILITIES

Fire Alarms
Automatic
Fire Hose in Corridors
Panic Bolts on Exit Doors
Electric-clock System
Bells in Corridor
Bells on Exterior of Building
Vacuum-cleaning System
Incinerator

SPECIAL ROOM

Teachers' Restrooms
Teachers' Toilets
Locations
Teachers' Lunchrooms
Kitchen
Clinic
Location
Equipment
Engineer's Office
Janitor's and Help's Room
Toilets
Basement used for Classrooms

N.E.A. CANDLE OF EFFICIENCY

Instruction 50%
Stairs and Corridors 20%
Administration 16%
Walls and Partitions 10%
Flues 3%
Accessories 1%



" D O I T W I T H D I T T O "

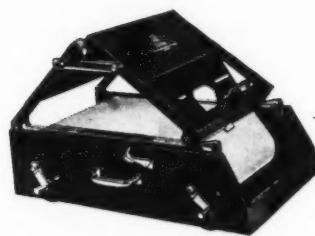
Copies



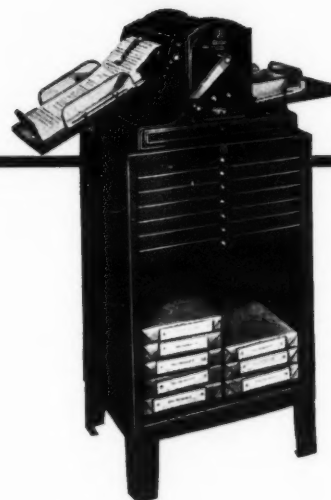
JUNIOR—A versatile school duplicator. Sturdy and practical for school use. Many thousands now in daily operation in all kinds of educational institutions.



COPY KIT—For teachers' personal home use—for rural schools. This copying kit is complete in equipment, all ready for duplicating.



PORTABLE—A low-priced duplicator for the small school or for the individual teacher. An unusually attractive Ditto at the special price now offered to schools.



ROTARY—Completely automatic—self-feeding, self-ejecting. The fastest gelatine duplicator made. The most popular duplicator that is used in schools today.

THE complete Ditto line includes ideal equipment for every copying need of every kind of educational institution.

- (1) Ditto makes 100 or more copies direct from your original pencil, pen and ink, typewritten or printed original.
- (2) Copies as many as 8 colors—all in one operation—direct from your original writing or drawing.
- (3) Requires no stencil, no carbon, no type-setting.
- (4) Copies on any size sheet from a small card to a large form.
- (5) Copies on thin tissue or heavy card stock.
- (6) Costs less than 5 cents per 100 copies.
- (7) Is the fastest method for making copies.
- (8) Is extremely simple to operate.

In schools and colleges, the uses of Ditto are virtually limitless.

For the faculty—examination questions, study outlines, drawings, graphs, sketches, shorthand samples, laboratory experiments, maps, music scores, lectures, notices.

For the students—school newspaper, athletic schedules, election ballot forms, dramatic club manuscripts, glee club arrangements, posters, drawings, club bulletins, notices, and many other uses.

For the office—instructions to teachers, school records, notices of meetings, report of Board of Education, bulletins, office forms, registration card systems, attendance records.

As specialists for many years in every phase of school duplicating work, we should like to send you more complete information about Ditto and to tell you how this modern system of duplicating will fit into your own school activities. We should like also to supply you with actual samples of Ditto work done in schools.

Ditto

I N C O R P O R A T E D

639 South Oakley Boulevard, Chicago, Illinois

" D O I T W I T H D I T T O "



"BOOK LEARNING" FOR EXECUTIVES AND BOARD MEMBERS

"Book Learning" for school officials amounts to a realization of these important facts:

- 1 Modern textbooks are absolutely essential for the maintenance of modern educational standards.
- 2 Only with an adequate supply of up-to-date textbooks can teachers meet the problems of larger classes.
- 3 A cut in textbook appropriations lowers the efficiency of the teachers and effects no appreciable savings, for the cost of books is less than 2% of the school budget.
- 4 Savings which represent real economy can be made by purchasing well bound books—books that are bound to last and will give years of satisfactory service.
- 5 The life of a book depends on the binding. The board is the foundation of the binding. Solid Binders Board made to the standards* of the Binders Board Manufacturers Association is the strongest, most durable board used in book covers. It should be specified on all book orders.



Copies of these specifications, developed in cooperation with the United States Bureau of Standards, will be sent on request.

BINDERS BOARD MANUFACTURERS ASSOCIATION

370 Lexington Avenue

C. L. Lloyd, *Secretary*

New York City

Members

Colonial Board Company.....Manchester, Conn.

The Davey Company.....Jersey City, N. J.

C. H. Norton Company....N. Westchester, Conn.

Consolidated Paper Company.....Monroe, Mich.

Fandango Mills.....Millburn, N. J.

Otter River Board Company...Otter River, Mass.

School Board News

♦ Battle Creek, Mich. The school board has adopted a resolution, requiring that tuition for nonresident pupils must be paid in advance by the quarter, unless the time limit for payment has been extended by the board. Students requiring additional time for payment must make application in writing to the board before the first of the ensuing quarter.

♦ Waterbury, Conn. Supt. Thomas J. Condon has suggested that the school board approve the "stagger" system of substitute-teacher appointments, as an economy measure. The system has been proposed to assist unemployed teachers during the depression and to make possible only one change, and that at the end of the first semester of the school year.

♦ Beverly, Mass. The school board has ruled that the signal for no-school sessions on stormy days shall be made by radio over station WNAC.

♦ The board of education at Minneapolis, Minn., has ordered that the entrance age for children to the kindergarten be raised from 5 to 6 years.

♦ Geneva, Ohio. The semiannual promotion plan for the city schools is to be abandoned next September, as a measure of economy. Under the plan, pupils will start school in the fall and there will be no new classes started at the midyear.

♦ Detroit, Mich. Supt. Frank Cody has suggested that the school board provide additional safeguards for swimming pools in the schools. Superintendent Cody was asked to prepare a program of additional physical examinations for students and adults using the pools.

♦ Cincinnati, Ohio. The board of education has decided to remain in its present location and has voted to renew the lease on its school administration building.

♦ Madison, S. Dak. All of the insurance policies on the city schools have been changed, following an appraisal of the buildings. Each policy is now prorated on the total amount of coverage for buildings and equipment. The total valuation of the buildings and equipment has been set at \$255,000.

♦ Butte, Mont. The school board has voted to discontinue the office of superintendent of schools, as an economy measure. The services of the superintendent will be terminated at the expiration of his contract in

August. Under the new plan, the duties of the superintendent will be taken over by the high-school principal, who will be known as supervising principal and will be clothed with his powers.

♦ Portland, Oreg. The school board recently rejected a suggestion to borrow \$5,570 from the building fund for the payment of ten additional teachers. The action was an indication that the board intends to make present resources suffice for the remainder of the school year. A motion was made that the budget be balanced next fall by postponing the opening of school, but the suggestion failed to obtain the board's approval.

♦ Bucyrus, Ohio. The school board has adopted new rules, which are the first step in an effort to prevent "private parties" after regular school functions. Under the new rule, a definite time has been set for each function to begin and close. Parents are informed as to the time limits, so that the schools may not be held responsible for what happens after that time.

♦ Fostoria, Ohio. The school board has adopted a schedule of rates for the use of the auditorium, gymnasium, or classrooms. Two schedules are provided. One requires a fee of \$20 a night, or \$10 a half day, for the use of the auditorium when heat is provided. The fee for the gymnasium is \$15 a night, or \$10 a half day, and the fee for a single room is \$5. The summer schedule when no heat is required is \$10 a night. Rehearsals will require a fee of \$10 a night.

♦ Kalamazoo, Mich. The school board has received a report from H. W. Anderson, secretary of the board, showing the insurable value of the school buildings and equipment. The report showed that, due to present-day prices and exclusions, approximately 40 per cent may be deducted from the insurance now carried. Following the reading of the report, the board voted to reduce the insurance to the new basis, by deducting 40 per cent from each agency, and dividing the \$100,000 of insurance equally between the agencies represented.

♦ The school board of Kansas City, Kans., has approved the 5-cent street-car fare offered to school children by the public service company. The board also approved a plan for the sale of weekly special passes through the school system. The passes allow school children to ride for 5 cents on school days between the hours of seven and nine in the morning and from noon to five o'clock in the afternoon.

♦ Franklin, Tenn. The school board has approved a new high-school program, providing for a six-period day, with 60 minutes for each recitation period. The new schedule replaces a seven-period program, with 45-

minute periods and double periods for special subjects. Under the new plan, the teachers of home economics, typewriting, shopwork, and science are enabled to conduct twice as many recitations as formerly. These teachers are allowed to take classes in physical education for two hours each week during periods of the day when the student has a vacant or study period. A satisfactory physical-education program has been conducted without the necessity of having extra teachers, or without the necessity of combining classes into large units. Each teacher has a straight schedule of recitations just as the English, history, or mathematics teachers.

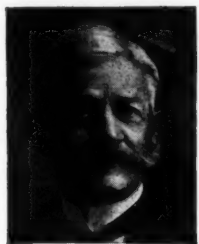
♦ Beloit, Wis. The school board has voted to eliminate all midyear promotions, in order to reduce the number of teachers through a consolidation of small classes, and a more homogeneous grouping in each of the various grades. The estimated saving in the salaries of teachers through the new plan is \$15,000 a year.

♦ Gatesville, Tex. The school board has voted to discontinue the position of principal of the high school, as an economy measure. In place of the principal, two regular teachers have been appointed under the title of dean. The dean of boys is also the athletic director, and the dean of girls is a married woman. Under the plan, the students receive individual attention and some definite guidance. The new plan is believed to be efficient in operation and a means of saving \$2,000 each year.

♦ Milwaukee, Wis. The buildings committee of the school board has approved a policy for letting on bids and contracts all new or remodeling work on school buildings that can be properly specified and which involves more than \$500.

♦ A second suit has been begun by A. E. Highley, a former superintendent of schools of Lafayette, Ind., who was deposed by the school board after a trial in which the board acted as prosecutor, judge, and jury. In his suit, Mr. Highley asks \$2,750 representing salary due him for the last half of 1932. Mr. Highley has a suit pending in the Superior Court, in which he asks that his rights, status, and legal relations with the school board be fixed and adjudicated.

♦ Lowell, Mass. The school board has adopted a resolution, which insures only limited employment to regularly listed substitute teachers in the kindergartens and high schools. Under the new rule, kindergarten substitutes will work for only two weeks at a time, and high-school substitutes for only two months, after which their places will be taken by others in rotation. Elementary-school substitutes were not included in the new rule.



A Holden Book Cover

Is your answer
for Text Book Economy
for Child Health Maintenance
for Providing Books and
plenty of them

Make the books NOW IN USE
Last Twice as Long
by using this wearproof, sanitary Cover

Holden Patent Book Cover Company
Miles C. Holden, President Springfield, Massachusetts

READY IN APRIL

THE NEWLON-HANNA SPELLER

BOOK ONE. GRADES I-IV

BOOK TWO. GRADES V-VIII

By DR. JESSE H. NEWLON, Director, Lincoln School,
Teachers College, Columbia University—formerly
Superintendent of Schools, Denver, Colorado

And DR. PAUL R. HANNA, Assistant Professor of
Education, Teachers College, Columbia University

THIS new child-centered Speller embodies the results of important spelling investigations made in the past three years. It offers a study method that is supported by the best modern research and practice. By utilizing a unique distribution of a variety of spelling activities and reviews, it provides for the mastery of words exactly at the time when pupils need to use them in written work and are interested in them.

HOUGHTON MIFFLIN CO.

Boston New York Chicago Dallas Atlanta San Francisco

An Invitation

Educators are urged to investigate the Benton Harbor Plan, as carried on by the International Correspondence Schools as the solution to a problem peculiar to these unusual times.

TODAY public schools are serving a greater number of pupils and operating on greatly reduced budgets. This condition constitutes a problem which cannot be ignored. It is a real challenge to educators determined not to sacrifice established essentials of instruction.

What can they do? Where can they turn for substitutes or replacements of equal value in maintaining their ideals of practical education, and at the same time reduce costs?

Search for answers to these questions has stimulated nationwide interest and enthusiasm in the Benton Harbor Plan as conducted by the International Correspondence Schools. The Plan received its name because the first practical demonstration was in the public schools of Benton Harbor, Michigan. High school and junior college executives are cordially invited to consider its adoption.

The Benton Harbor Plan, briefly, is this: It is a method by which a trade, technical, or business subject course may be taken by those desiring it through co-operation with I. C. S. This solves the question of maintenance of special teachers and equipment where the number of students to be served is small. The teacher who counsels with the pupils regarding their vocational training is the logical person to take charge of the Benton Harbor Plan and is designated supervisor of correspondence study. He outlines a course of study for the individual pupils. He also gives the necessary supervision of instruction—the instruction itself, as well as textbooks and equipment, come from I. C. S. The per capita cost is much less than it would be for small groups under resident teachers.

This Plan is already in operation in scores of schools. A request for complete information involves no obligation.

INTERNATIONAL CORRESPONDENCE SCHOOLS

HIGH SCHOOL SERVICE DEPT., SCRANTON, PA.

Gentlemen: Please send me complete information about the Benton Harbor Plan.

Name _____ Title _____

School _____

City _____ State _____

Member, National Home Study Council



No. 955—
Note Book Case

No. 9565—
Cabinet And Supply Case



KIMBALL EQUIPPED

The utilities of design and service are inherent features of Kimball laboratory and vocational furniture. It is this extra value which has caused schools in all parts of the country to place their stamp of approval on Kimball products. In selecting equipment for your laboratories and vocational department, you, too, can be sure of lasting satisfaction by insisting on Kimball Quality.

Kimball engineers will be pleased to assist in planning your laboratories. Ask to have them call and also send for a copy of our complete catalog.

W. W. KIMBALL COMPANY, CHICAGO, ILLINOIS
Established 1857

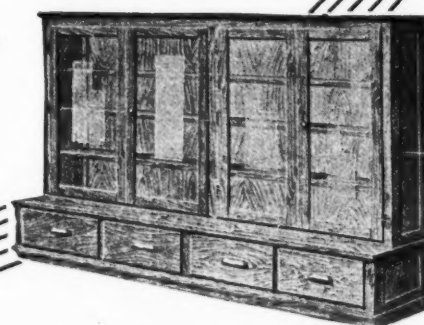
Laboratory and Vocational Furniture Division
306 South Wabash Avenue
A. E. Kaltenbrun, Director
of Sales.

Eastern Sales Offices
489-5th Ave.
New York City.



No. 657—
Chemistry Fume Hood

No. 990—
Apparatus Case



KIMBALL BUILT LABORATORY AND VOCATIONAL FURNITURE CHICAGO

Personal News of School Officials

♦ MR. ROBERT J. BRUHN, 74, a member of the school board of Edgerton, Wis., for a number of years, died at his home on February 1, after a short illness. His last term as a member of the board covered six years, during which he served as chairman of the building-and-grounds committee.

♦ SUPT. VOLMER SORESENSEN has been reelected at Williams Bay, Wis., for another three-year term.

♦ SUPT. NICHOLAS GUNDERSON, of Sparta, Wis., has been reelected for a twelfth term.

♦ SUPT. F. H. BARBEE, of St. Joseph, Mo., has been reelected for a two-year term, at the same salary.

♦ MR. J. E. WALKER, of Chattanooga, Tenn., has been elected superintendent of schools of Loudon county. Superintendent Walker has begun a survey of the Loudon county schools and will formulate a program as soon as financial conditions warrant.

♦ SUPT. F. A. BOUELLE, of Los Angeles, Calif., has been reelected for another term.

♦ MR. P. C. SHELLY has been appointed acting superintendent of schools for the J. Sterling Morton High School at Cicero, Ill.

♦ JOHN B. MONLUX, 78, formerly deputy superintendent of schools of Los Angeles, Calif., died at his home in that city on January 12, following an attack of heart disease. Mr. Monlux entered the Los Angeles school system as a teacher and was successively principal and deputy superintendent. In 1931 he was made deputy superintendent-emeritus.

♦ SUPT. IRA B. FEE, of Missoula, Mont., has been reelected for a three-year term.

♦ The school board of Woodbine, Iowa, has extended the contract of SUPT. K. C. HARDER another year, making the fourth year of his service as head of the school system.

♦ P. A. ALLEN, former school superintendent at Bluffton, Ind., was recently honored at a dinner given by teachers and members of the school board. The occasion was in celebration of his eightieth birthday anniversary.

♦ MR. H. L. SMITH, of Paris, Tenn., has been elected superintendent of schools at Paducah, Ky. He succeeds the late L. J. Hanifan.

♦ SUPT. C. E. ROBERTS, of Emmett, Idaho, has been reelected for another year.

♦ SUPT. ELMER H. WEBER, of Coleridge, Nebr., has been reelected for another year.

♦ REV. SAMUEL MAGILL is president of the school board of Raton, N. Mex. MR. JOHN MORROW, one of the members of the board, has served for 25 years.

♦ MR. W. B. GREGG, former superintendent of schools at Peru and Rhodes, Iowa, died suddenly on January 27, following an attack of heart disease. Mr. Gregg, who was born in Michigan, had spent many years in the teaching profession.

♦ MR. WILLIAM S. COVERT, superintendent of schools at Rockville Centre, New York, has announced his retirement, after a service of 27 years in the schools of the district. During the period of his service, Mr. Covert saw the schools grow from an enrollment of 400 to 3,000 students, its staff increased from 13 to 110 teachers, and a valuation of more than \$2,000,000. MR. FLOYD B. WATSON has been elected to succeed Mr. Covert as superintendent.

♦ MISS IDA M. LIND, formerly principal of the Brightwood Demonstration School, Washington, D. C., has been appointed director of elementary-school instruction for the District of Columbia.

♦ SUPT. LEVY FRY, of Texas City, Texas, has recently taken over the work of the secretary of the board of education.

♦ AMOS ALONZO STAGG was recently given the 1933 educational award at the hands of the Associated Exhibitors of the National Education Association. The award was presented to Mr. Stagg by President Coffman of the University of Minnesota, at the annual banquet of the exhibitors held in the Nicollet Hotel, Minneapolis, on February 28.

♦ DR. HARRY WOODBURN CHASE, president of the University of Illinois, has recently been appointed Chancellor of New York University, to succeed Dr. Elmer Ellsworth Brown. Dr. Chase will take over the office on July 1.

♦ MR. HARRY G. WILSON, a traveling representative for the American Book Company since 1890, with headquarters in Chicago, died on January 22, at Asheville, N. C. He was 87 years old and had been active in business almost up to the time of his death. The funeral services were held at Logansport, Ind.

♦ SUPT. JAMES H. HARRIS, of Pontiac, Mich., has been elected president of the Pontiac Community Chest.

TEACHERS AND ADMINISTRATION

♦ Baltimore, Md. The school board has ordered the dismissal of between 150 and 200 substitute teachers as the first step in a new economy program to be carried out. The action became necessary due to a reduction of \$1,400,000 in the school budget for the school year 1933. After having cut its budget by \$800,000, the school board was asked by the board of estimates to eliminate an additional \$600,000. A number of further economies will be made in the departments of administration and supervision, measurements, business administration, and attendance.

♦ Klamath Falls, Oreg. The school board has received petitions, asking that only married women with no other means of support be employed as teachers in the schools next year. The movement was begun by a group which is opposed to two members of a family holding good positions at a time when large numbers of teachers are without positions. It was apparent that the sentiment of taxpayers was in favor of dropping married women from the schools.

♦ School officials of Wisconsin will be subject to a fine of \$50 and a 30-day jail sentence, if they ask a teacher applicant for a job, about her religion, race, or political affiliations, under a bill passed by the state senate. The bill, which was sponsored by Senator Gettelman, of Milwaukee, is aimed to prevent discrimination in employing school teachers.

♦ The county school superintendents of Nebraska held their annual meeting January 24 to 26, at Lincoln. Among the speakers on the three-day program were Deputy Supt. Fuller Austin, Dr. G. W. Rosenlof of the state education department, Senator Peterson of the senate committee on education, and Prof. J. L. McBrien of the state teachers' college, Edmond, Okla. At the superintendents' dinner, Judge Bayard H. Paine was the speaker.

The meeting closed with the election of officers. Mr. Harry E. Weekly, Broken Bow, was elected president, Mrs. Alberta Bailance, Pawnee City, was elected vice-president, Miss Jessie Kreidler secretary, and Mr. J. I. Ray, Fremont, treasurer.

♦ Washington, D. C. The board of education of the District of Columbia has adopted a new rule, which requires that teachers must retire immediately upon reaching the age of 70. Formerly, such teachers were permitted to remain in the service until the end of the school year. The rule which goes into effect in July, is in compliance with the spirit of the law in the economy act.

Economical Seating Insured



No. 260



PANAMA



No. 200

Regardless of the type of seating you select you are assured of economical seating when it is made by Peabody. All types, whether stationary or movable, have the inherent qualities which give them long life even with hard use. This reduces maintenance cost as well as reduces the cost per year for each unit.

Write for complete catalogue or additional information.

THE PEABODY SEATING COMPANY
NORTH MANCHESTER — Established 1903 — INDIANA

SOME ECONOMIC PRINCIPLES BASIC TO SCHOOL FINANCE

(Concluded from Page 22)

perience of the ones that have preceded it, a body of knowledge has been accumulated through the ages which has made it possible to utilize the forces and materials of nature in a progressively efficient manner."

Only the briefest mention can here be given to the effect of education upon consumption. The most casual observation, however, is sufficient to show us that education tends to increase the wants of a people.

"Dad," says Mary, "I want you to buy a vacuum cleaner. We need one in this house."

"Mary," says Dad, "I doubt if we need a vacuum cleaner. Your mother manages all right with a carpet beater."

Then Mary, who is a star student in the home-economics department at the high school, starts firing the heavy ammunition. She lays down a withering barrage of facts about germs, dirt, fatigue; she drives back the conservative excuses of the opposition; she explodes Dad's carefully planned counterattack. In a few minutes Dad runs up the white flag and next day the local dealer in electric appliances has another customer. Within a month or two the neighbors show signs of interest in what he has to sell. In a year or two Mary starts a home of her own and also becomes a customer.

As with respect to production, so with consumption, economists have pointed out repeatedly the stimulating effects of education. Says Arthur Hadley: "The greatest gain from public education lies in the fact that a people which grows up with wide views of life, develops wider demands for consumption."⁸

The effect of education on consumption is unique since it not only creates a demand for more goods but is also especially well fitted

to create a demand for better goods. Education, by developing finer wants and good taste in their satisfaction, not only elevates but also refines the general standard of living. Mary's schooling did not make her want more carpet beaters but rather better equipment.

We must be careful not to overemphasize the importance of education in this field. No matter how highly educated a people may be, they will not be able to purchase the products of the farm and the factory unless their purchasing power is maintained. Our present economic crisis illustrates this fact only too well. Nevertheless, economic adjustment alone cannot lift the level of the consumer's demand. Education must complete the task.

V. Conclusions

Outstanding conclusions from this brief review of certain economic considerations which are basic to the financing of schools may now be stated. First, we have seen that public education has an economic aspect; that however much the educative process may deal with intangibles, the services and goods which make it possible are bought and paid for very much like any other commodity. Second, the fact that public education is financed on a governmental basis rather than by individual enterprises does not fundamentally change its position in the economic cycle. Money spent for schools is not swallowed up and lost to humanity forever. It appears again, and usually immediately, in the form of expenditures by teachers, other school employees, and the sellers of school equipment. Third, the goods and services which are purchased for the schools are subject to the general operations of the economic law of supply and demand. Teaching service, being the largest single item in the total educational budget, should have particular attention. The law of supply and demand, as it affects the wages of

teachers, may react favorably or adversely toward educational advancement. The decision as to which way the law is going to act rests very largely with educational leaders. Fourth, education itself is an important factor in economic processes. It is a powerful stimulant to both production and consumption. It may, in a sense, be considered as one of the basic elements of production along with raw materials and labor. Fifth, the effect of education on consumption is of a particularly desirable nature, since it is uniquely fitted to improve the quality of consumption as well as the quantity.

MAKING HIGH-SCHOOL GRADUATION SIGNIFICANT

(Continued from Page 23)

type of program that a great amount of skill and ingenuity is required on the part of those teachers specifically delegated to work with the class.

On the other hand, there is greater satisfaction in the knowledge that the work has been well done, that the pupils have been strengthened, that the school has been interpreted to the community, that the parents have a new appreciation of the work of the school, and that the program has not been a routine, stereotyped affair.

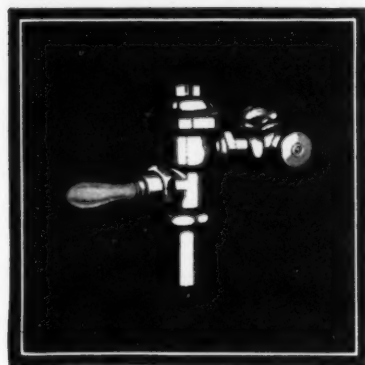
The teacher begins to work early on such a project, rather than two weeks before the occasion. It furnishes him a splendid teaching project. It gives him an opportunity to present tangible accomplishments to the public. It provides an opportunity for initiative.

♦ Governor Schmedeman, of Wisconsin, has signed a bill, prohibiting discrimination in the employment of school teachers, because of race, nationality, political, or religious affiliations. Violation of the law will be cause for removal of public-school officials, or members of boards of education or school boards.

⁸Hayes, H. Gordon, *Our Economic System*, Vol. I, pp. 88-90.

⁹Hadley, Arthur T., *Treatise on Economics*, p. 334.

Stamina!



Quoted material is from "Meter Registration and Water Revenue—A Preliminary Study" by H. W. Griswold, Deputy Mgr. and Deputy Chief Engr., and W. A. Gentner, Office Engineer, Water Bureau, Hartford, Conn. Complete report published in THE AMERICAN CITY for January, 1933.

SLOAN Flush Valve operates 1,300,000 times and continues to work perfectly

Read this report of a test conducted independently by two officials of the Hartford Water Bureau: "In this test three $\frac{3}{4}$ -inch meters, selected from the original test group of fifteen, are connected in series, and water after passing through them is delivered through about 45 feet of $\frac{3}{4}$ -inch pipe to a Sloan flush valve, which operates automatically at a rate of ten 4-second flushes per minute, using about 0.17-cubic foot of water per flush, which is equivalent to a rate of approximately 20 gallons per minute.

"The performance of the Sloan valve used in this work has proved very satisfactory all through the severe test to which it has been subjected. Aside from the replacement of packings and occasional minor adjustments, the valve required no attention through six months of continuous service, during which over 177,000 cubic feet of water was discharged, requiring, at the rates then operated, some 713,000 operations of the valve. Following this six months' service, the valve began to give trouble and was replaced with another of the same make and type, which has proved even more successful than its predecessor, over 223,000 cubic feet of water (requiring over 1,300,000 flushing operations) having been discharged through it."

SLOAN VALVE COMPANY * CHICAGO

SCHOOL-BOARD HEADS WHO ARE MAKING HISTORY IN AMERICAN EDUCATION

(Concluded from Page 25)

has been city tax assessor for several years. Mr. Martin's private interests in ranching and in oil development have made him an important factor in the commercial and industrial life of Laredo. Yet, he has ever been ready to render community service whenever possible.

On June 28, 1911, Mr. Martin was married to Miss Minnie Bruni, a daughter of A. M. Bruni, himself a large factor in the development of Laredo and Webb county for more than fifty years. Of this union there are two children, Joseph and Dora.

Joseph C. Martin became a member of the board of education in 1925, and in 1927 was elected president of the board. During the period that he has served as president, the enrollment of the schools has increased from 3,481 to 6,572; the physical plant has been enlarged and modernized; the educational program has been extended and greatly enriched; and important steps in curriculum revision have been taken. He has given at least one fourth of his time to these expansions and changes, all without compensation of any kind. Through his business connections and influence the schools have been kept on a cash basis during the economic crisis through which we have been passing.

Mr. Martin has been a valiant champion of the welfare of the children and he adheres strictly to the idea that this must be the paramount thought when considering any program, be it that of curtailment or expansion. He stands for sound, progressive educational policies to be attained by gradual development rather than by spectacular revolutionary changes.

THE LAW AND SCHOOL PROPERTY

(Continued from Page 26)

right so to regulate to a governmental agency other than the municipal corporation.¹⁶

The other point of view holds that unless the city has been actually given by legislative enactment police power over school buildings, the municipal corporation has no authority to impose its regulations upon the school board, since by so doing the city is assuming a superior authority to the authority of the state over state property. School property is not private property; it is not city property; it is the property of the state. The state has the legal right to regulate it. If the legislature desires to extend the control of municipalities over city schools, it is quite a simple matter to provide for that right by statute.¹⁷

¹⁶Note 47, L. R. A. (N. S.) 892.

¹⁷Cf. Trussler, H., *Essentials of School Law*, p. 283.

(To Be Continued)

THE SUPERINTENDENT AND CREATIVE SUPERVISION

(Concluded from Page 28)

SEATTLE PUBLIC SCHOOLS STANDARDS OF PROCEDURE For the Guidance of Principals LUNCHROOMS

Are sanitary practices observed?

Is all food kept in metal containers with the exception of fruit and vegetables unless otherwise protected from dust and mice?

Are storeroom shelves tidy and clean with supplies well organized?

Are the floors, stoves, etc., cleaned daily?

Is the lunchroom matron careful about her person?

Is the food as uniformly well cooked and well served as it is possible to have it?

Is there supervision or instruction in the school in choice of lunches?

Are the pupils being trained in courtesy and good dining-room habits?

a) Free conversation but not boisterousness.

b) Courtesy in line.

c) Keeping crusts and apple cores on trays and not on the floor.

Is the pupil help taking the minimum amount of time from lessons, in no case encroaching on the afternoon session?

Is the lunchroom matron conforming as closely as possible to school practices in dealing with children working in the lunchroom in the matter of:

a) Control of her voice?

b) Definiteness of directions?

c) Control of pupil helpers in habits of cleanliness, courtesy, honesty, and punctuality?

Are the cashiers so well supervised as to eliminate temptation for them to practice dishonesty in handling the cash?

It may be that the foregoing illustrations will indicate how creative abilities in supervision may be released through coöperative attack upon educational problems. Whether the problem be that of economy or of greater efficiency in supervision, one of the greatest resources of any school system is an alert staff of principals. Superintendents and supervisors have lost considerable time and wasted much effort because of their failure properly to capitalize this resource. As time goes on it will doubtless become increasingly evident that the central supervisory staff must learn how to work with and through principals instead of undertaking to go around, above, or over their heads and to work directly with teachers. It is through coöperative effort between supervisors and principals in the solution of mutual problems that the superintendent will be enabled to capitalize most effectively the creative capacity of all concerned.

A NEW SCHOOL-ADMINISTRATION UNIT SYSTEM

(Continued from Page 32)

average daily attendance in 1930-31 in the four classes of districts of the state is: first-class, \$14,211.26; second-class, \$6,883.14; third-class, \$3,-

(Concluded on Page 62)

Wax at 5¢ a gallon
might be terribly
expensive!



...particularly when you consider these two important features in buying floor treatments: 1. How long will it wear? 2. Who recommends the product? Wax at a nickel a gallon might be a pretty expensive proposition if you had to apply it every other day. You probably wouldn't save much on your yearly material bill and think what it would do to your labor costs!

Nine times out of ten Tri-C Floor Treatments prove far more economical when you add up your *total* maintenance costs: material *plus* labor. Because of greater durability, they cut a sizeable sum out of labor costs... and after all, labor is by far the biggest item in the maintenance budget.

Furthermore, Tri-C Floor Treatments are sponsored by an organization of specially trained men whose knowledge of the care of floors is practically unique. Why take needless chances with *your* floors?

DON'T SCRUB! DON'T WAX!

TREAT YOUR
FLOORS
WITH



GUARANTEED FLOOR TREATMENTS

CAR-NA-VAR
FLOOR TREATMENT

CONTINENTAL
"18"

RUBBER-VAR
FLOOR TREATMENT

Don't scrub! Don't wax! Save money by "dry-cleaning" your floors with Tri-C products. Send for free "Check-up" Chart and get the facts and figures on your building.



free
"Check-up"
Chart

CONTINENTAL CAR-NA-VAR CORP.
1831 National Ave., Brazil, Indiana

Without obligation send me free "Check-up" Chart and further details about treating our floors with TRI-C products.



No. 48. Flange rests on desk top.
(No. 49 rests flush.) Sizes to fit
present holes in your desks.

Try out a FREE SAMPLE SENGBUSCH HARD RUBBER INKWELL

Learn for yourself how to
save real money on replacements

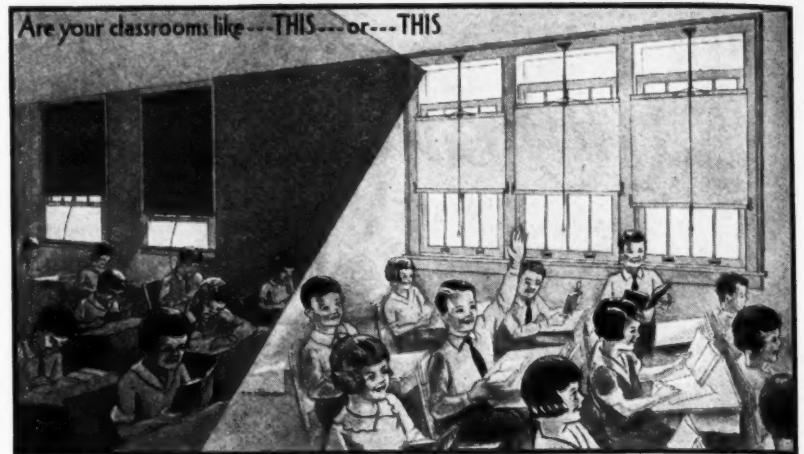
Just a simple request—a post card is sufficient—lets you see what can be done nowadays even with the lowly inkwell.

The new Sengbusch *genuine all-hard vulcanized rubber well* changes all past ideas of what an inkwell should do. It still safely delivers nice clean ink long after glass wells have been charged up to "breakage," and so-called hard-rubber wells have corroded or gone to pieces.

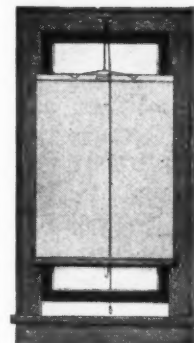
An inkwell is a small item—but there are so many of them. Savings on the Sengbusch run into money very quickly. Won't you try one at our expense? Write today for your free sample.

Sengbusch
SELF-CLOSING INKSTAND CO.
318 Sengbusch Bldg. Milwaukee, Wis.

Shades that keep the Sun's Glare OUT But let all the light IN!



PROTECT your pupils from window shades that shut out LIGHT. Shades that cause semi-darkened classrooms. Inadequate working light often leads to eyestrain, nearsightedness and nervous disorders. Pupils become fidgety—difficult to control—slowed up mentally. Children need not labor under such a classroom handicap with Draper Adjustable Shades, which keep the glare OUT, but let the light IN.



DRAPER SANITARY
ROLLER SHADE
Patented Jan. 8, 1907
Aug. 7, 1928

Adjustable from both top and bottom of the window, Draper Adjustable Shades permit the valuable top light to reach all the desks—even those farthest from the windows. Healthful ventilation is insured because windows may be opened from the top without flapping of shades to distract.

Durable, easy to install, economical, Draper shades meet the needs of modern schools and education as no other window shade can. Interesting literature and sample of Dratex cloth sent free to educators. Address Dept. A.A.

LUTHER O. DRAPER SHADE CO.
Makers of Better Shades for Over a Quarter Century
Spiceland « Dept. A. A » Indiana

(Concluded from Page 60)

739.34; fourth-class, \$3,119.10; state average, \$5,906.64."

In arriving at the problem, the investigators contend that "the effectiveness of the school program in meeting the needs of pupils is directly conditioned by having a unit of school administration of sufficient population and wealth to carry on economically and efficiently the functions of public education.

"It is generally conceded that the first- and second-class school districts and certain of the third-class districts have a sufficiently large administrative unit to give an efficient and economic school administration, offering complete first-class educational facilities for all the people within their limits.

"It is also conceded that many of the fourth-class school districts and some of the third-class districts are too small in geographical area or too limited in population and wealth to offer complete first-class educational facilities for all the people within the area."

The statement is made that in the State of Pennsylvania there is a belief that the county is not a natural school-administrative unit, and that a so-called consolidated school district is not necessarily large enough to serve either efficiently or economically.

It is held that a unit should be large enough to furnish first-class educational facilities for all the people within a natural geographical and community area.

The report suggests that the administration of the schools be intrusted to boards of education as they always have been and defines the powers and duties along the generally accepted lines.

The advantages to be derived from the proposed plan of organization are summarized as follows:

"A. Give to Pennsylvania a unit of administration that will be both *effective* and *economical*.

"B. Make possible the *present educational offerings at a reduced cost*.

"C. Make a greatly increased educational offering possible without any increase in cost.

"D. Make possible the expansion of educational

offerings by the State of Pennsylvania equal to the best standard of education.

"E. The proposed organization *will realize to a considerable extent decentralization*, as some of the duties of the Department of Public Instruction may be placed in the hands of the executive committee. For instance, the approval of building sites and building plans in accord with the state standards."

A Plan of Administration

In order to carry the project into practical operation it is proposed that the schools in the first-, second-, and third-class districts shall be administered by school boards and district superintendents as now provided by law. Any community school district of the fourth class, or a group of such districts, may upon recommendation of the county superintendent, elect a noncommissioned superintendent of schools whose duties shall be professional and administrative. The plan also provides that there shall be an executive committee of five school-board members.

"The executive committee shall be composed of five school-board members elected by the community school directors of the fourth-class school districts and the community school directors of the third-class school districts that are under the supervision of the county superintendents."

It further provides that: "At the first school directors' annual convention, as now prescribed by law, after the passage of this act, there shall be elected five members of the executive committee—one for one year, one for two years, one for three years, one for four years, one for five years—at the expiration of their terms, their successors shall be elected for five years. If the annual convention does not occur before the first Thursday after the first Monday in December, a special election convention shall be held on that day.

"The executive-committee members shall serve without pay but shall receive the necessary expense incurred in the performance of the official duties.

"The officers of the executive committee shall consist of a president and vice-president who shall be members of the committee; a county superin-

tendent of schools who shall be secretary *ex officio* but without vote; and a treasurer who shall not be a member of the committee.

"The executive committee shall, after necessary surveys for the purpose have been made by the county superintendent, proceed to redistrict the county into community school districts, keeping in mind geographic, commercial, and social centers as well as roads and barriers to travel. Annexations to first-, second-, and third-class districts may be made."

The mode and manner of formulating districts, changing boundary lines, population considerations, and the like are minutely outlined.

GALVA COMMUNITY HIGH SCHOOL, GALVA, ILLINOIS

(Concluded from Page 37)

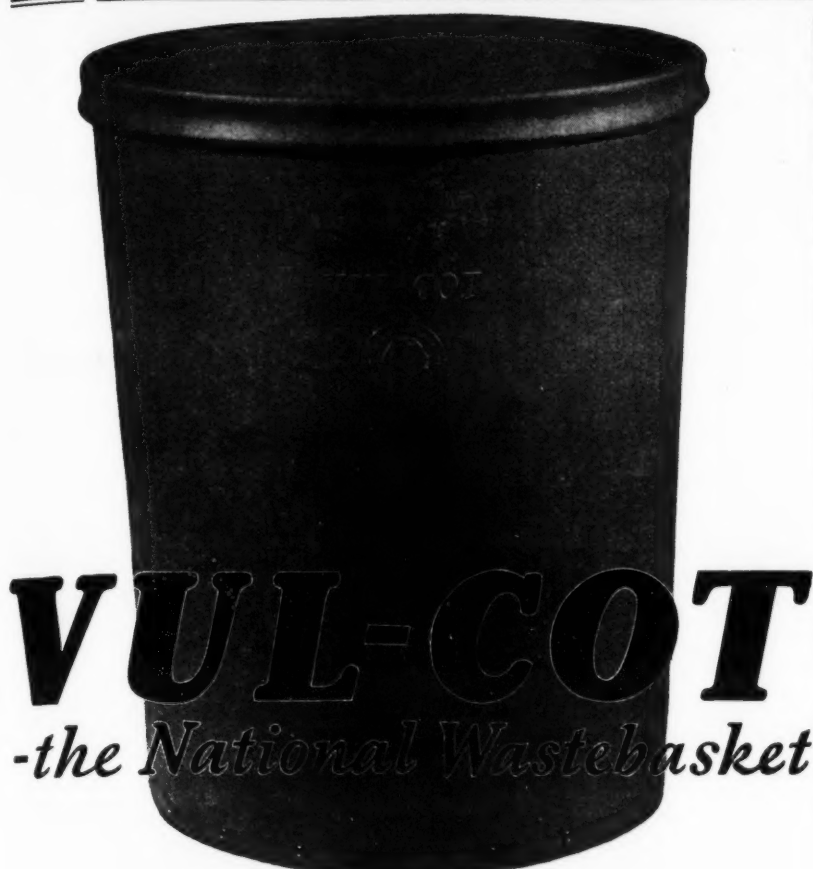
equipment, stage equipment, and everything except classroom and laboratory furniture was \$136,596.65. The cost of furniture and equipment was \$9,980.40. The cost of the eleven-acre site was \$1,920. The cost of grading, landscaping, walks, etc., was \$3,832.83. The total cost including these above items and the architect's fee and incidentals was \$158,818.64. The cost per cubic foot for the above is 19 cents. When one considers that it is thoroughly equipped, fireproof, and modern in every respect, this cost is convincing evidence that it pays to build in depressions.

MEETING PRESENT WANTS AND PLANNING FOR FUTURE NEEDS

(Concluded from Page 40)

per cubic foot, or \$110 per pupil. It contains a total of 248,000 cubic feet and cost \$44,064 for the general contract. A saving of \$2,000 was made by salvaging a certain amount of brick and other permanent materials from an old school building on the site, which was wrecked to make place for the present building.

The building was designed and erected under the supervision of Mr. James C. Stitt, architect, Norfolk, Nebraska.



Not even "chalk dust" can find its way through the solid sides and bottom of Vul-Cot, Made of National H·A·R·D Vulcanized Fibre—one material that cannot dent or bend like metal; cannot split or break like wicker.

At Stationers and School Supply Houses

NATIONAL VULCANIZED FIBRE CO.
Wilmington, Delaware, U. S. A.

Get this Extra VALUE!

Kewaunee Birch Line
Laboratory Furniture
Offers all Conveniences
at Money Saving Prices

By furnishing Junior and Senior High Schools now with Kewaunee Birch Line Laboratory, Vocational or Home Economics furniture, you do two things. First, you save tremendously on first cost. Second, you enlarge class capacity, provide newest conveniences and promote better class supervision.

Kewaunee Birch Line Furniture is beautiful, sturdy, serviceable and designed to promote efficient work. Our new low prices represent the greatest values ever offered in quality laboratory furniture. Write for our Birch Line Catalog today.

Kewaunee Mfg. Co.
LABORATORY FURNITURE EXPERTS

C. G. CAMPBELL, PRES. AND GEN. MGR.

101 Lincoln St., Kewaunee, Wis.

Eastern Branch: 1908 News Building,

220 E. 42nd St., New York, N. Y.

Mid-West Office: 1614 Monroe St., Evanston, Ill.

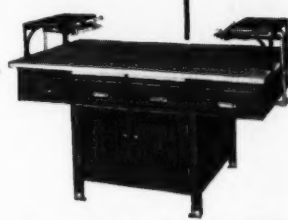
BRANCH OFFICES

Philadelphia
Greensboro, N. C.
Miami
Birmingham
Louisville
Nashville
Columbus
Adrian, Mich.

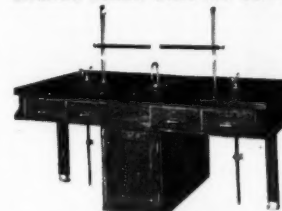
Indianapolis
Jackson, Miss.
New Orleans
Houston
El Paso
Toronto, Ont.
Oklahoma City
Kansas City

Little Rock
Lincoln, Nebr.
Des Moines
Minneapolis
Grand Forks, N. D.
Aberdeen, S. D.
Denver
Salt Lake City

Phoenix
Los Angeles
San Francisco
Portland, Ore.
Spokane
Crystal Falls,
Mich.
Montreal, Que.



Domestic Science Table No. BL-76



Combination Science Table No. BL-40



Art Table No. BL-90



Utility Table No. BL-84

THE SELECTION AND MANAGEMENT OF SCHOOL SUPPLIES

(Concluded from Page 41)

7. In other cases a distributing agency would permit the use of school material by a maximum number of teachers. At times two teachers may require the same item; if through a plan and distribution the use can be arranged for at different times, it is evident that a saving results. Someone must care for this coordination; the supply clerk is the logical person.

Other duties and responsibilities might be devised, but these will suffice to indicate that a supply clerk can quite profitably serve in the problem of school management of equipment and supplies.

A pertinent factor in the management of school equipment, especially at the present time, is a procedure by which the check on equipment can be made, to determine stock in excess of present needs; and initiate and carry out a plan for redistribution. To use such a scheme it would be necessary to fix: (a) the established quota; (b) the school inventory; (c) the school-property versus the teacher-property idea; (d) the repair of damaged material; (e) conversion of obsolete material to its best use.

The Equipment Quota

Controlled experimental studies, having as their objective the determination of quality and quantity of equipment and supplies required, should be continuous. The quota sheet revised annually on the basis of school needs and budgetary possibilities, is indicated as the first available asset in equipment placement control. With such an established standard, little or no objection should be raised by any school to release material when its need is indicated elsewhere, and such transfer has a pronounced economy value.

The Inventory

As the inventory of a business organization

forms the basis of many decisions, so in the schools a well-planned inventory is of the utmost importance. At present no well-defined inventory plan is available. However, its need is apparent. Among other purposes, it would indicate the stock available for redistribution. Changing class sizes and changing instructional methods set up unbalanced conditions. One year certain class enrollments may be heavy; the next year increases may appear in another school, while the first school shows a decrease. Change in method of presentation may also alter enrollment and as a result we may discover in certain places, excess equipment which should be transferred. Constant vigilance is necessary, however, to prevent this overstocking.

Often opposition is expressed when transfer or equalization is undertaken, because the teacher in charge has lost sight of the material as property of the school system, and thinks only of her individual use of it. If an economical procedure is to be followed, I am sure you will agree that maximum usage must be the principle for distributing supplies.

We often hear that the unlimited supply of material which has been the common procedure for some years, has destroyed the resourcefulness of teachers. We know, too, that in certain cases, outstanding teachers have demonstrated their ability to reduce expenditures by attention given to economy in equipment. We might well receive a lesson from this type of teacher and think of the advantages which would result from teacher-consciousness of economy. In many cases minor repairs and alert scrutiny of the workability of equipment will prevent loss and permit instruction to be continued.

Many schools have supply rooms filled to overflowing with material which is either damaged or of an obsolete and impractical kind. The problem of this material is a test of the ingenuity of alert teachers. In many cases

perhaps material should be discarded; in others it might find a place in other departments where it could be converted into usable form to demonstrate some principle omitted from the list of demonstrations. While I do not advocate a prolonged and indefinite use of makeshift apparatus, there is a possibility of some service if properly controlled.

In conclusion, may I call attention to the fact that I have touched only a few of the many problems in the selection and management of school equipment and supplies. Continued research and careful study of all phases concerned with equipment and supplies is necessary and should be continually practiced.

OHIO'S SCHOOL-FINANCE SURVEY

(Concluded from Page 44)

building such fortunes and providing for their transmission. Two other notions are usually involved, however: (1) 'ability to pay' and (2) redistribution of wealth.

"2. Taxes based on the 'ability to pay' theory should be balanced among the three indices of such ability — property, income, and expenditures. This will broaden the tax base and thus secure a more stable revenue, as well as a more equitable distribution of burden.

"a) Property should be taxed at its true value and in areas large enough to bring a fair relationship between property taxed and activities supported. For example, a metropolitan area should be taxed as a unit, leaving no wealthy suburbs with low rates, and no poor suburbs with confiscatory taxes. Utility generating property will be taxed over the territory served, rather than in the place where the plant chances to be located.

"b) Income should be taxed to reach persons who have ability to pay, but who do not possess property.

"c) Sales should be taxed in order to still further broaden the tax base, and to place part of the cost of government on spending, as well as on thrift and industry."

"DOUBLE VALUE FOR YOUR DIPLOMA DOLLAR"—

the new catalogue of Beckley-Cardy Diplomas just off the press—is yours for the asking.

You can select from its complete display an appropriate and attractive diploma for your 1933 graduates. One they will be proud and happy to possess.

And this year, too, you will find new handsome designs in both book and sheet forms . . . priced to bring you substantial savings. Engraved forms range from \$1.25 to \$30.00 per hundred.

Send for your copy of "Double Value for Your Diploma Dollar"—TODAY.

BECKLEY-CARDY COMPANY
17 EAST 23rd STREET - CHICAGO

National School Desks Have Proven Their Worth



National Desks are designed and constructed with the health of the child in mind. The durability of the desks and seats, and the adaptability of the desks to proper room layout and seating arrangements are also carefully and scientifically considered and included. Write us for complete seating catalogue.

**NATIONAL
SCHOOL EQUIPMENT COMPANY**
Port Washington, Wisconsin

Market Place Section

COMPLETE STAGE EQUIPMENT and DRAPERIES

TIFFIN
Scenic Studios
TIFFIN, OHIO
TRADE MARK

CATALOGUE UPON REQUEST

BUY BRUCE BOOKS

MARTIN'S
ENGRAVED
Diplomas

Prices are the lowest we have known in our 20 years' experience serving colleges, schools and fraternities. Small engraved diplomas, \$9.50 per 100. Write immediately for information and samples.

MARTIN DIPLOMA CO., 641 Atlantic Ave., BOSTON

THE W. M. BECK & SONS CO.
STUDIOS

2001 HIGHLAND AVE. CINCINNATI, OHIO

COMPLETE STAGE EQUIPMENT
DRAPERIES - SCENERY - RIGGING

SALES OPPORTUNITIES

Salesmen selling buildings, hospitals, hotels, stores and grocery and supply jobbers, can add largely to their income with mop-heads. Write McCallum & Robinson (largest firm of its kind in the world), Memphis, Tenn., for details.

Which firm is interested in acting as sole agent for a means usable in connection with music lessons in elementary schools? The article in question has been very widely introduced in German schools, but represents a novelty in the U. S. A. Only firms of good financial standing are requested to write to: L. W. 5155 Rudolf Mosse, Leipzig (Germany).

TUBULAR SLIDE FIRE ESCAPE

Over 3,170 now in use . . . many with service records, no death or injury reported. Approved by the Underwriters' Laboratories.

POTTER MFG. CORP.
1858 Conway Bldg.
Chicago, Ill.

**POTTER
TUBULAR
FIRE ESCAPES**

DUDFIELD'S Dustless Crayon Trough and Blackboard Trim

A neat substantial metal trim for blackboards, with a chalk trough that takes care of the dust, and an eraser cleaner for cleaning the erasers.

DUDFIELD MFG. CO.
16 West Kansas St.,
Liberty, Missouri

Teacher Agencies

TEACHERS' AGENCY **Fisk** CHICAGO

OUR SERVICE IS NATIONWIDE
Experienced placement authorities in charge of every phase of educational activity. Our work includes positions from college executives to primary and kindergarten teachers. Excellent librarians, secretaries, teachers of physical education and home economics are on our lists. Write for information.
ADDRESS 857 STEGER BLDG., CHICAGO, ILL.

Schermerhorn Teachers' Agency

Established 1855

366 Fifth Ave.,
between 34th and 35th Sts.,
NEW YORK

Branch Offices:
1086 Union Trust Bldg., Pittsburgh, Pa.
1835 Euclid Ave., Cleveland, Ohio.

A Superior Agency for Superior People. We Register Only Reliable Candidates.
Services Free to School Officials.

MEMBER NATIONAL ASSOCIATION OF TEACHER AGENCIES



**Columbia
School Supply Co.**
Indianapolis, Indiana

Columbia Movable Chair Desk and Tablet Arm Chair



Send for
circulars
& prices.

No. 370

premier engraving co.

Artists Engravers

Producers of Halftone and Line Engravings in one or more colors . . . Benday color plates . . . Two, three and four color process plates.

We are especially prepared to handle school annuals and magazines, assisting you in preliminary sketch drawings through the general format and making up of illustrations to the completed book.

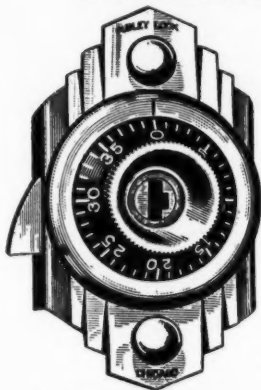
Commercial Art Department: Illustrating, Lettering, Retouching, Designing and Layouts.

818 · W E S T
W I N N E B A G O
S T R E E T
M I L W A U K E E
W I S C O N S I N



The Dudley**DUALGUARD**

Series of MASTERKEYED COMBINATION LOCKS



Offering all the advantages of combination locks PLUS unusual administrative convenience and unsurpassed security. Masterkeys registered to the installation. Special Re-Set Key to change combinations on reassignment.



Ask for free demonstration—Write

DUDLEY LOCK CORPORATION

26 N. Franklin St. Dept. A-13 Chicago, Ill. Rotodial-No. 2

S-540 for Steel Equipment

DUDLEY LOCKS

WORLD'S LARGEST MAKER OF COMBINATION LOCKS

Stage Equipment

Velour Curtains—Draperies, Scenery and Rigging Equipment of the Highest Quality.

Service and Installation by
Experienced Personnel

Write

Twin City Scenic Company569 So. Clinton St.
Syracuse, N. Y.2819 Nicollet Ave.
Minneapolis, Minn.25 Henry St.
Detroit, Mich.**We've Stumped the "Kids"
NU-NOTCH**

Cannot be Tampered with by meddlers or "smart-aleck" youngsters.

Cast Iron Mushroom
Dome or Flat Top.

It's the new special adjusting bolt and locking key furnished with every Knowles Mushroom Ventilator installation that stumps the "kids." Yes, we've spoiled the fun they once had loosening, rattling or removing ventilator heads.

10 recessed notches give perfect control of air. Dome or flat top shapes.

Send for data and prices. Information also furnished on Knowles Tu-Way Air Deflectors, Disc-Loc Gallery Riser Ventilators, Damp-grilles and other Air Diffusing equipment.

KNOWLES MUSHROOM VENTILATOR COMPANY

Leaders in air diffusing equipment for 23 years.
41 NORTH MOORE STREET, NEW YORK, N. Y.

CIRCLE

Folding Partitions
Rolling Partitions
Sectional Partitions
School Wardrobes

Grandstands—Bleachers
of Wood or Steel—
Portable or Permanent
Portable School Buildings

For more than a decade—manufacturing suppliers to schools throughout the country. Write for detailed information on any of the products listed above.

NEWCASTLE PRODUCTS, INC.
625 South 25th Street • Newcastle, Indiana

**NEW YORK SCHOOL-BOARDS' ASSOCIATION
BROADENS WORK**

The New York State School Boards' Association has admitted to its membership the association of central rural school districts and will extend its work to include efficient service for this group.

Among the varied problems to be handled at the legislative session this year is the question of obtaining a sufficient appropriation to meet the provisions of the education law with reference to state aid for schools. It appears that the appropriation made by the 1932 legislature was insufficient by 5 per cent, and the 1933 appropriation, if made in accordance with the governor's budget, will amount to \$104,204,568, which is about 10 per cent deficient. The governor had recommended that a moratorium on increases be declared during the present emergency, but the legislature did not act favorably on the recommendation, nor did it include the additional sum in the appropriation bill. The School-Board Association will concentrate its efforts upon needed school-finance legislation.

**PENNSYLVANIA SCHOOL DIRECTORS
ELECT OFFICERS**

The Pennsylvania State School Directors' Association, at its recent meeting at Harrisburg, elect the following officers:

President, Mrs. Ida Wallace, Swissvale; first vice-president, David A. Miller, Allentown; second vice-president, Mrs. Warren Marshall, Swarthmore; third vice-president, George W. Murray, Newell; secretary-treasurer, Mrs. Anna Dickinson, Harrisburg. New directors include C. K. Patterson, Dr. William K. McBride, J. Foster Beck, and H. J. Stockton.

**SCHOOL-ADMINISTRATIVE CLINIC
ESTABLISHED**

A school-administrative clinic for superintendents and principals of ten cities in the vicinity of Waupun, Wis., has been established for the purpose of school visitation and conference upon important school problems.

The group meets in monthly rotation at one or other of the cities, visits schools and classes in the morning, and has lunch, and after lunch a round-table conference is held.

Mr. H. C. Wegner, superintendent of schools of Waupun, one of the members of the group, prepares a definite program for each meeting, setting forth everyday problems in administration, so that the members may discuss the varied problems which they must meet and which will keep them in step with the times. An example of the type of subjects handled at the

conferences may be seen in the following: High-school schedule and reorganization, extracurricular programs, assembly programs, purchasing of supplies, school-board policies, use of school buildings, janitorial service, service of special teachers, and teaching load.

The schoolmen who participate in the regular conferences of the clinic hold that it is well worth while and beneficial to all the members.

**PENNSYLVANIA SCHOOL-BOARD SECRETARIES
TALK ECONOMY AT ANNUAL MEETING**

Economy was the keynote at the opening session of the Pennsylvania Association of School-Board Secretaries at Harrisburg on January 31.

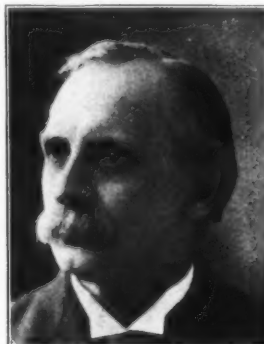
A resolution against the redistricting plan was adopted unanimously. Another resolution opposing cuts in state appropriations to school districts was passed. The meeting closed with the election of officers. Mr. George A. Mincemoyer, of Mechanicsburg, was elected president of the association. Other officers are F. C. E. Millhouse, Pottstown, vice-president; D. D. Hammelbaugh, secretary, and Mrs. Helen K. Thompson, Greenville, treasurer.

THE PASSING OF DR. ALBERT WINSHIP

Albert Edward Winship, editor of the *Journal of Education*, and widely known lecturer on teaching problems, died at his home in Boston, Mass., on February 17. Dr. Winship was 87.

Dr. Winship, who was a familiar figure in educational gatherings during the past fifty years, was born in Bridgewater, Mass., in February, 1845. He became a teacher at an early age and was successively principal of a school in Newton, Mass., and instructor in the Bridgewater State Normal School. His success as a writer and lecturer led him to become editor of the *Journal of Education* in 1886.

He was a member of the Massachusetts State Board of Education for many years and took an active part in the deliberations of various teachers associations, particularly the National Education Association, of which he was at his death an honorary president.



DR. A. E. WINSHIP

During the past sixty years, Dr. Winship spent more than half of his time traveling and lecturing. He was perhaps the most widely sought institute instructor in the United States.

A son, Dr. George Parker Winship, is librarian of the Harvard University Library at Cambridge, Mass.

NEWS OF OFFICIALS

♦ MR. ORVILLE J. TAYLOR has been elected president of the Chicago board of education, to succeed Lewis Myers. Mr. Taylor, a lawyer, was graduated from the University of Chicago law school in 1908. He is a member of the Illinois State and Chicago Bar Association and a member of the firm of Taylor, Miller, Busch & Boyden.

♦ SUPT. G. L. JENNER, of Bay City, Mich., has been reelected for another term. Mr. Jenner is entering upon his twelfth year as head of the school system.

♦ JASPER N. HUNT, educator and the author of a number of school textbooks, died at his home in Chicago, on February 17, after an illness of several months. He was 82 years old. Mr. Hunt, a graduate of Allegheny College in the class of 1873, had been connected with the American Book Company for many years. Of one of the books he compiled, it is said more than twenty million copies were sold. He was also secretary of the Jasper Hunt Manufacturing Company, makers of typewriter supplies.

♦ DR. JOHN J. RYLE, chairman of the board of education of Stamford, Conn., died on February 16, after an illness of two months with heart disease. Dr. Ryle was 60 years old.

♦ DR. JOSEPH G. NORMAN has been elected vice-chairman of the school board of Fall River, Mass.

♦ WILLIAM MCCLAIN, 66, for 13 years head of the schools of Washington C. H., Ohio, died at a Columbus hospital on January 23, following an operation.

♦ MR. B. A. STREETER, of Huntley, Ill., who was for five years superintendent of the Ashton schools, died on January 25, in an Elgin hospital, following an illness of three months.

♦ SUPT. C. M. RANKIN, of Kinsley, Kans., has been reelected for another year.

♦ SUPT. A. T. PETERSON, of Billings, Mont., has been reelected for another year.

♦ SUPT. HOMER C. SCARBOROUGH, of Great Bend, Kans., has been reelected for another year.

♦ MR. R. C. MADDY has been elected superintendent of schools for the Phillips County High School System at Holyoke, Colo.

♦ MR. E. E. HARDING has been elected president of the board of education of Santa Monica, Calif.

♦ MR. LOUIS SCHAEFER has been reelected as president of the board of education of Vancouver, Wash.

After the Meeting

SOARING (The teacher speaks:)

In study hall I have a back-seat vantage point,
Whence casually I see that "all goes well";
And where I read things that I like,
Between "once-over" glances.

There I sat today, revelling again in Shelley's
"To a Skylark"—
Shelley, whom "we haven't come to yet" in
English III—
Shelley, unknown—indeed if not unheard of
—I daresay,
To most of English III.

Diagonally and to my right sat Robert C—,
Bob—to whom the zest of life is
Playing back on the school's football team,
Constructing radios, and tinkering with cars
and things—
Bob, who feasts insatiably on those innumerable
tidbits
Served so piquantly each month
In a mechanics' popular magazine—
Bob, who cordially dislikes dry things of
English III.

So how could I tell him to
"Put up that magazine!"
And, myself, with conscience clear,
Go back to English III?
Alas! I'm not the "master" that my superin-
tendent, so I hear,
Thinks me to be.

— John B. Herring.

STORIES FOR THE SCHOOL-BOARD SPEECHMAKER

Applied Psychology

A shopkeeper had for some time displayed in his window a card inscribed "Fishing Tackle." A customer drew the proprietor's attention to the spelling. "Has anyone told you of it before?" he asked.

"Hundreds," replied the dealer, "But whenever they drop in to tell me, they always spend something."

The Price of Obedience

Upon moving into a new neighborhood the small boy of the family was cautioned not to fight with his new acquaintances. One day Willie came home with a black eye and very much spattered with dirt.

"Why, Willie," said his mother, "I thought I told you to count a hundred before you fought!"

"I did, Mamma," said Willie, "and look what Tommy Smith did while I was counting."

A Lesson in Socialism

Mike and Pat were two Irish friends—and Democrats. One day Mike learned that Pat had turned Socialist. This grieved and troubled Mike, who said: "Pat, I don't understand this Socialism. What is it, now?"

"It means dividing up your property equally," said Pat. "'Tis this way. If I had two million dollars I'd give you a million and keep a million myself—see?"

"And if you had two farms, Pat, what would you do?"

"I'd divide up, Mike. I'd give you one and I'd keep one."

"And if you had two pigs, Pat, would you share those, too?"

"Now, Mike, you go to thunder! You know I've got two pigs!"



Honest at Least

Teacher (in grammar class): "If I said 'I had a car' that would be the past tense. Now, John, if you said 'My mother has a Lincoln,' what tense would that be?"
John: "Pre-tense."

Buyers' News

THE TALKING MOTION PICTURE IN EDUCATION

The Harvard School of Education, Cambridge, Mass., has recently completed a series of research studies, showing the possibilities of the talking motion picture as a means of classroom instruction in science. The findings which are expected to have a revolutionary effect upon American education, are the result of a study of "Sense Aids in Education," conducted by Dr. Phillip J. Rulon, of the Harvard School of Education, in cooperation with Mr. J. A. Haeseler, of the University Film Foundation, of Harvard.

The study was conducted with two groups of students from Lynn, Revere, and Quincy, Mass. One group received instruction in general science from a textbook only. The second group studied the same text, but for fewer hours a week, and during the remaining time, these pupils were shown talking motion pictures prepared for these subjects. Tests were given all students at the end of each six-week period, and again after an interval of three months, during which the material was not again used in instruction. The results of the tests were compared with similar tests for a third group of students which had received no special instruction in science. The results were used as the basis in comparing the "film-and-text" group with the group using textbooks only. On the basis of the comparisons, it was found that the film group was 20 per cent ahead of the textbook group in the immediate tests, and 38 per cent ahead at the end of the three-month "forgetting period." "Evidently," said Dr. Rulon, "the film technique is decidedly superior to the nonfilm technique, and the superiority is noticeable in the tests of retention."

The tests were conducted among junior-high-school pupils in Lynn, Quincy, and Revere, and the three test groups were precisely equal in age, mental ability, science information, and previous instruction in science. In the experiments, eight films were prepared on scientific subjects.

PERSONAL

Ginn Admits New Members to Firm. Ginn & Company, Publishers, of Boston, Mass., have announced that Mr. HARRY H. WOOD, Mr. LEE H. GRIFFIN, and Mr. H. C. LUCAS have been admitted to partnership in the firm.

BUYERS' NEWS

"Keopalite" Emergency Lighting System. The Electric Storage Battery Company, 19th and Allegheny Ave., Philadelphia, Pa., has issued a six-page folder, describing and illustrating its "Keopalite" Emergency Lighting System for use in cases where the regular lighting system fails due to a storm, accident, or short circuit.

The "Keopalite" is a self-contained emergency lighting system which supplies a separate source of electric current to its own high-efficiency low-voltage lamp. It consists of an oxide battery, an automatic relay, a battery charger, switches, and signal, all assembled in a compact, attractive case. The "Keopalite" is easy to install, can be conveniently mounted on a shelf or wall, operates with minimum attention, and costs only one and one-half cents a day for operation.

Complete information and prices will be furnished to any school official upon request.

NEW TRADE PRODUCTS

New Series of Ditto Machines. Ditto, Inc., Chicago, Ill., has just announced a new series of Ditto



NEW DITTO MACHINE

duplicating machines, known as the F-5 series, which is intended to provide the ultimate in easy operation, trouble-proof construction, and adaptability to all kinds of school and office work.

The new models are capable of making copies of typewritten, handwritten, or drawn material, and in as many as eight colors. Any size of paper may be used, ranging from small labels to large forms. The series may be obtained in three different sizes—14 by 17 in., 18 by 34 in., and 9 by 14 in.

The cabinet is of sturdy construction, and is neat and attractive in appearance. It is mounted on ball-bearing trucks and is provided with rubber cushioning to make it quiet and easily operated. Oilless bearings eliminate the need for lubrication, and simplicity of construction renders adjustments unnecessary.

Complete information will be furnished to any school official upon request.

New Bausch & Lomb Model KOSB Balopticon.

The Bausch & Lomb Optical Company, Rochester, N. Y., has issued an interesting descriptive circular, telling about its new, convenient Model KOSB Balopticon, which is especially desirable for classroom use. It is stated by the manufacturer that it is a superior instrument, insuring evenness of illumination and image quality, as well as opaque projection. It has a translucent screen projector, allowing the operator to face the audience; it is easily portable, it projects opaque material up to 6 by 6 in., or a 6-in. square section of a larger object; it has a brilliant image, clear and flat from edge to edge; it is more silent in operation because of improved blower-cooling device. The problem of proper illumination has been solved by a 500-watt Mazda bulb, which eliminates shadows of the bulb and filament-anchors on the screen, insures even brightness over the object, and prevents sudden change and consequent eyestrain.

Complete information and prices will be sent to any school official who requests it.

NEWS OF OFFICIALS

♦ MRS. ALBERT E. HILL has been appointed as a new member of the school board of Nashville, Tenn., to succeed her late husband, ALBERT E. HILL, former president of the board.

♦ MR. W. E. WILKERSON has been elected city commissioner of education at Chattanooga, Tenn.

♦ MR. JOE H. CHITWOOD, president of the school board of Anacortes, Wash., has refused to accept a nomination for another term.

♦ MR. H. S. BONAR, superintendent of schools of Manitowoc, Wis., has been appointed chairman of a special committee of five Wisconsin schoolmen who are to make a study of the entrance requirements for high-school students to the state university. The study was begun to meet a criticism that the requirements for a college education as set up by the university do not take into consideration the ability of a high-school graduate under a modern course of study. The findings of the study are expected to revolutionize the present practice in regard to college-entrance requirements.

♦ The school board of Salt Lake City, Utah, has reorganized for the year, with the election of MR. ALEX E. EBERHARDT as president, MR. W. H. LOVESY as vice-president, MR. GEORGE KING as clerk, and MR. R. L. CONLEY as treasurer. The new members of the board are MR. N. B. DAYTON, MR. C. O. JENSEN, and MR. JOHN B. MATHESON.

♦ MR. WILLIAM J. SHRODER has announced his retirement as president of the board of education of Cincinnati, Ohio.

♦ HUGH DAYTON HUFFAKER, city commissioner of education of Chattanooga, Tenn., died at a sanitarium in the city on January 26, following an attack of pneumonia. Mr. Huffaker, who was 72, began his career as a teacher, later serving as a principal in the public schools for nine years. In 1887 he was elected superintendent of Hamilton county, Tennessee. He was for twelve years a member of the Tennessee State Board of Education, and for five years a member of the state textbook commission. In 1915 he was elected commissioner of education, and in April, 1927, was re-elected a member of the city commission and assigned to the education department.

♦ MR. GEORGE H. CATE has been elected president of the board of education at Nashville, Tenn.

♦ MR. R. R. ABEL has been reelected as a member of the school board of Cleveland, Tenn. The other members of the board are E. S. PETTY, G. C. BROWN, W. B. PARKS, and B. M. WEBB.

♦ The board of education of Glendale, Ohio, has reorganized for the school year, with the election of Mr. Charles Sawyer as president, Mrs. J. C. Richardson as vice-president, and Mr. Samuel E. Burr as clerk. The other members of the board are Mr. J. G. Gutting, Dr. R. C. Allen, and Mr. W. P. Matthews.

♦ New Bedford, Mass. Supt. A. P. Keith recently reported to the school board that a number of high-school students had been suspended because they had been delinquent in their studies. The action in eliminating students who have proved chronic failures, followed an order that postgraduate students be not allowed to return for the second semester. The students who were suspended had either failed in three subjects last term and two in the previous term, or had failed in two subjects for three terms in succession.

INDEX TO ADVERTISING ANNOUNCEMENTS

A. P. W. Paper Company..... 4	Holden Patent Book Cover Co.....57	National Vulcanized Fibre Co.....63
American Seating Company..... 1	Holophane Company, Inc..... 9	Nelson Corp., The Herman.....45
Armstrong Cork & Insulation Co...51	Houghton, Mifflin Company.....57	Newcastle Products, Inc.65
Austral Window Company..4th Cover	Huntington Laboratories.....50	Norton Company48
Beckley-Cardy Company64	International Business Machines Corp.11	Peabody Seating Company, The....59
Binders Board Manufacturers Association56	International Correspondence Schools57	Pittsburgh Steel Company..... 2
Bruce Publishing Company.....6, 68	Jennison-Wright Co., The..2nd Cover	Premier Engraving Co.....64
Cabot, Inc., Samuel 9	Johnson Service Company..... 3	School Architects Directory..... 8
Columbia School Supply Co.....64	Keweenaw Mfg. Company63	Sengbusch Self-Closing Inkstand Co.62
Congoleum-Nairn, Inc.47	Kimball Company, W. W.....58	Sloan Valve Company.....60
Continental Car-Na-Var Corp.61	Knowles Mushroom Ventilator Co.65	Solar-Sturges Mfg. Co..... 2
Corbin Cabinet Lock Corp..... 6	Libbey-Owens-Ford Glass Co.....12	Standard Blackboard Co..... 8
Ditto, Incorporated55	Lynn Leather Washer & Mat Co... 6	Standard Electric Time Co., The...46
Draper Shade Co., Luther O.....62	Macmillan Co., The.....52	Stewart Iron Works Co., The..... 8
Dudfield Mfg. Company.....64	Market Place.....64	Taylor Company, Halsey W..... 4
Dudley Lock Corporation.....65	Minneapolis-Honeywell Regulator Co. 5	Tiffin Scenic Studios.....64
Eastman Teaching Films, Inc.....14	National School Equipment Co.....64	Twin City Scenic Co.....65
Evans, W. L..... 4	National School Supply Assoc.....10	Wayne Iron Works..... 9
Finnell System, Inc.....3rd Cover		Western Electric Co..... 7
Ford Company, The J. B.....49		Westinghouse Electric & Mfg. Co...53
Hild Floor Machine Co.....11		Yale & Towne Mfg. Co.....11
Hoberg Paper & Fibre Company... 2		

SIXTY PER CENT OF ALL SCHOOLS ARE OF THE ONE-ROOM TYPE

The one-room schools of the country have been gradually decreasing in number since 1918, but approximately 60 per cent of all school buildings are still of the one-room type, according to E. M. Foster, chief statistician of the U. S. Office of Education.

As a result of his study, Mr. Foster found that in the ten years from 1920 to 1930, the number of one-room schools had decreased at the average rate of 4,052 a year. From 1928 to 1930, the rate of decrease was only 2,297. In 1918, there were 195,400 one-room schools, and in 1930 there were 148,712.

The states in the West North Central Division reported the largest number of one-room schools, 46,186, or 79.69 per cent. Of all types of schools, the average percentage of one-room schools in the country is 60.14.

In his report, Mr. Foster showed that the total number of school buildings increased steadily during the period from 1870 to 1915. In 1930, the same number of school buildings were in use as in 1900, although about 30,000 new buildings had come into use between 1900 and 1915. Consolidation of schools and transportation of pupils were given as causes for the decrease in the number of school buildings.

SCHOOL BOND SALES

School bonds to the amount of \$2,799,261 were sold during the month of January. The largest sales took place in New York state, \$780,000; Tennessee was second with sales of \$600,000; New Jersey sold \$445,000; Ohio, \$364,250; and Utah, \$185,000. The price of bonds has been rising slowly but steadily. The average interest rate on the January sales was 4.48.

ST. JOSEPH COMPLETES BUILDING PROGRAM

A new senior high school at St. Joseph, Mo., was completed and occupied on January 30. The building was completed at a cost of \$650,000.

Under a new arrangement, the Robidoux Junior High School will occupy the former high-school building, the Junior College will take over the building vacated by the Junior High School, and two elementary schools will be housed in the building formerly used by the College.

The change completes a building program begun four years ago, with the floating of a \$2,180,000 bond issue. Four elementary schools and a senior high school have been completed and occupied. A number of elementary schools of the platoon type have been erected, making nine platoon schools in operation at the present time. Within a period of four years the entire school

system has been reorganized on the 2-3-3-6 plan, with all elementary schools of the six-grade type. The educational features of the program were carried out by Supt. F. H. Barbee, who is completing his fourth year as head of the schools.

BUILDING NEWS

♦ San Antonio, Texas. The Thomas Jefferson Senior High School was remodeled and occupied with the opening of the fall semester in September. The building, which accommodates 2,000 students, was completed at a cost of \$1,250,000. The Phyllis Wheatley Senior High School for Negroes was completed and occupied in February, 1933. This school has the most modern vocational and technical equipment and was completed at a cost of \$165,000.

The former Main Avenue Senior High School has been remodeled and renovated and is now being used as a vocational technical school. The school has a student body of 1,200 and maintains a day-school program, a night-school program, and offers opportunities for advanced training to unemployed students.

♦ Bluefield, W. Va. The board of education has taken advantage of available funds from Reconstruction Finance Corporation and has started to work upon several school-building projects. A new floor was laid in the Beaver High-School gymnasium and the auditorium was painted, all labor for these projects being paid for from the Reconstruction funds. A playground on the property of the South Bluefield Junior High School has been leveled and several other small projects taken care of. In each case, the school board was required only to pay for the material used.

♦ Lynchburg, Va. The board of education will shortly complete the erection of a 15-room elementary school, including an auditorium and cafeteria. The building will be completed at a total cost of \$110,000.

♦ Wauwatosa, Wis. The board of education recently dedicated the new Hawthorne Junior High School. Mr. Frank O. Hall, registrar of the University of Wisconsin, delivered the dedicatory address.

♦ Plymouth, Wis. The new junior-senior high-school building which is nearing completion, will be occupied for the first time at the date of the commencement exercises in June. In addition to classrooms, the building contains rooms for manual arts, home economics, agriculture, and commercial training, and an auditorium with a seating capacity of 700.

♦ Contracts have been awarded for the construction of the third unit of the high-school group at Normandy, Mo. The building contains seventeen classrooms, in addition to a library, an auditorium, two gymnasiums, and other special rooms. It will have ac-

commodations for 1,000 students and will be completed at an aggregate cost of \$217,000, including equipment. Mr. William B. Ittner, St. Louis, Mo., is the architect of the building.

♦ The school board of Pottsville, Pa., has completed a new low-cost school, which is the result of a combination of skillful planning, economical construction, and excellent design. Bonds for the school were voted in December, 1930, and the building was completed in January, 1933. The school has a capacity of 1,500 and was completed at a cost of \$788,311, exclusive of grounds and equipment. Mr. William B. Ittner, school architect of St. Louis, Mo., was in charge of the planning of the building and the supervision of its construction.

♦ Longview, Tex. The school board has completed the erection of a high school, at a cost of \$200,000. A new ward school was also erected, at a cost of \$50,000.

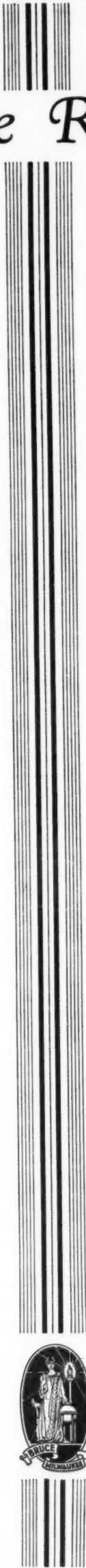
♦ Commissioner of Education E. W. Butterfield of Connecticut has recently expressed the opinion that it is not for the best interests of children of the state that the school year be shortened. Mr. Butterfield pointed out that it is the primary purpose of the schools to give children as extensive a training as possible. To shorten the school year by two to four weeks, he said, would mean but a small saving and would have no great effect upon the overhead costs.

PUBLIC SCHOOLS OPERATE CANNING FACTORY

The public schools of Yoakum, Texas, have recently installed machinery for the operation of a canning factory during the summer season. The canning plant, which is intended for the use of the residents of the district, will be operated by the schools, under the direction of the vocational-agriculture department, and without cost to the patrons of the district.

Under the plan adopted, the patrons will bring their raw products of fruit and vegetables, prepare them for canning, and place the products in the cans. Labor supplied by the schools will then take over the work of sealing, processing, cooling, and stacking the cans until needed.

The plan was originally introduced at Pearsall, Texas, by Mr. George P. Barron, superintendent of schools of Yoakum, and formerly head of the Pearsall schools. It proved so successful that a similar plan was started in Yoakum by Mr. Barron. It is brought out that there were no people on the city welfare list in Pearsall during the winter, and it is felt that the canning factory has had a great deal to do with the elimination of begging.



The Reward of Teaching . . .

SOME years ago I was visiting in a group of teachers in the lobby of a Chicago hotel. One of my friends at one point left the group rather abruptly to greet a younger man. Upon his return to our group my friend explained, "I have just collected some of my reward of teaching. The young man whom I met is one of my former students who has become a judge and is doing very well indeed."

Note my friend was "collecting his reward of teaching." In these days of thoughtless public and private discussion of teachers' salaries, are we losing sight of these fundamentals? Most of us have our heads down and the argument goes on and the dollar seems to be the only return for good teaching. Placing the argument on the monetary basis is unjust to the teacher and an absolute proof of a lack of understanding of the service and the reward of the teacher.

The real teacher can never be paid in money alone. True, the teacher must live and there must be a high standard of compensation for service given. However, teaching is above a monetary consideration. The "real" teacher who catches the opportunity to direct the student to a life of service, thinks more of the opportunity than the salary. It is most unfortunate that the salary problem has taken the ugly turn of a compulsory cut. Teachers who are fixing principles in the lives of children are, as a rule, big enough to meet an emergency when properly presented.

The conflict today is the scaling-down of all departments of public service on an equal and an equitable basis. Teachers resent drastic salary cuts when other departments in city government are not being cut back in proportion to the reductions of teachers' schedules. The situation is unfortunate but a solution is in sight.

Industry is down as low as 20% of capacity. Salaries have been cut as a rule three times. Teachers' salaries have been cut, but the cuts have been spotty. Voluntary salary cuts have been the rule, but the general public feels teachers have not taken the cuts which have come to industry. Right or wrong, there is a position we may miss. Teachers have gone into teaching on the basis of a life of sacrifice.

The great sacrifice of the next ninety days is the demand for a settlement of the salary question. Teachers want state and national uniformity of salary standards. They want equality and security. Irregular payments and reductions of salary will mean low teaching standards in some communities and high teaching standards in others.

The depression is spending itself. Heroic sacrifice must complete the economic cycle. The teacher in taking final reductions of salary is speeding the day of budget adjustment. After all, it is a problem of reward other than money. Teachers have given their lives to a cause and the sacrifice of income is a sacrifice of self for the kiddies. The worst is over but the last is the final salary adjustment necessary to balance the 1933 budgets.



Frank Bruce
Publisher

MORE SPEED MORE POWER!



THE NEW
FINNELL
53% MORE
EFFICIENT

More Square Feet Per Hour

Why do we say the new *Finnell* is 53% more efficient? Here are five big reasons:

Added Speed! Brush revolutions increased to 230 per minute.

Greater Power! Short coupled wheel base gives more weight per square inch of brush surface. Sturdy, General Electric Motor, known the world over, delivers power directly.

Increased Mobility! A child can manage it with one hand. Wheels keep it under control. Super-offset design enables it to go under desks, benches, tables, machinery, etc.

Larger Capacity! All factors combine to cover more thousand square feet per hour than any comparable machine.

Marvelous Silence! Only two gears. Heat treated, hand polished worm gears, running in extra large grease case.

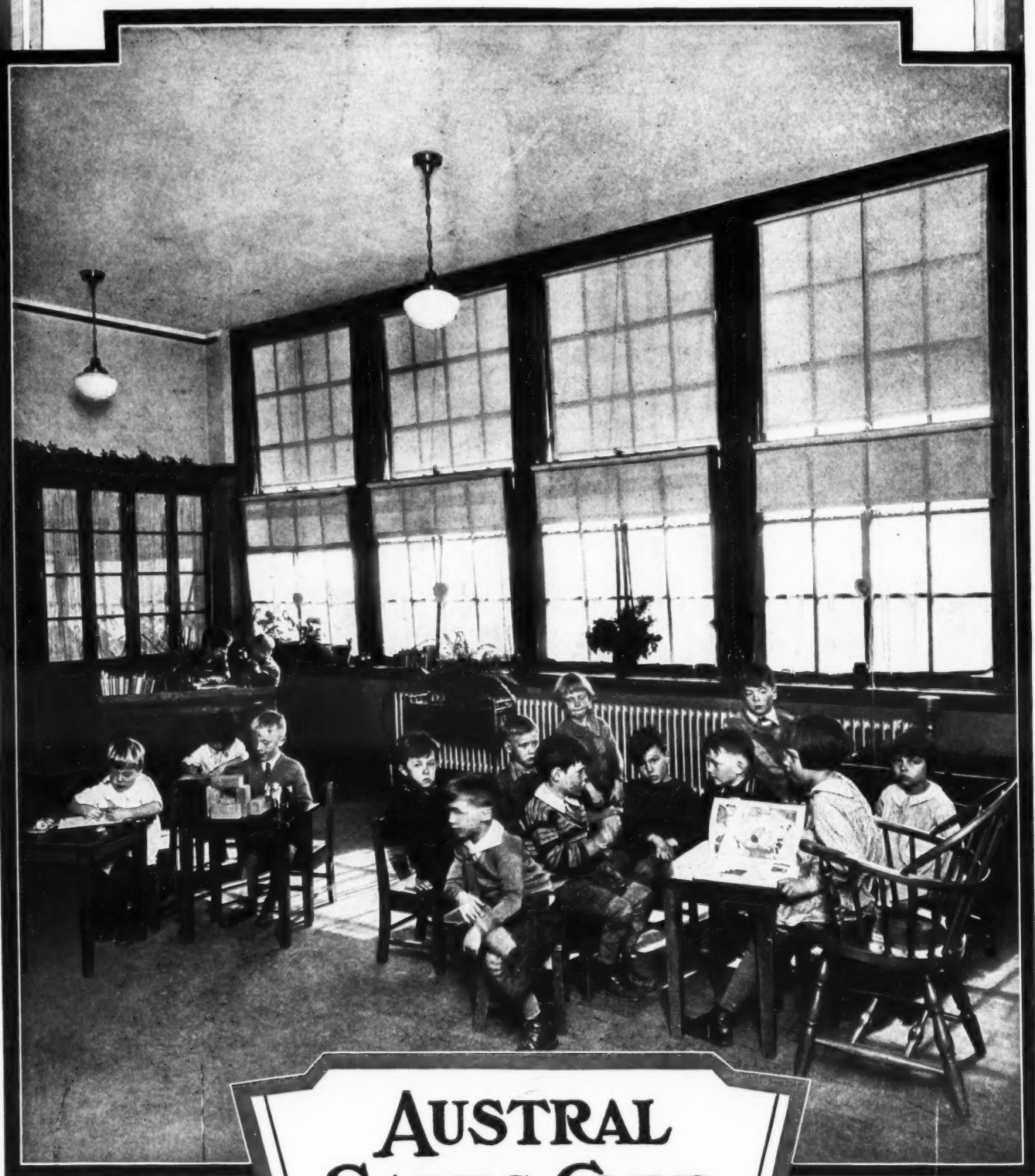
Finished in polished aluminum and chromium plate, giving it a new beauty of appearance. Four sizes—11, 13, 15 and 18 inch brush diameter. All prices at 1932 low levels for former *Finnells*.

Why wait? Every day you continue to mop, scrub or polish floors by hand, or by an out-of-date machine, you are spending money you might just as well save. Let the new *Finnell* show you how. Write for free demonstration of the 100 series *Finnell*. Address *Finnell System, Inc.*, 803 East Street, Elkhart, Indiana.

FINNELL SYSTEM

O F F L O O R M A I N T E N A N C E

School Architects were among the first to recognize the superior advantages of **AUSTRAL PRODUCTS**.^{*} They have consistently specified them as **STANDARDS**. More Light Area . . . Perfect Ventilation . . . Economy.



Showing **AUSTRAL WINDOWS** installed in a Kindergarten. Despite the fact that these windows appear to be closed, they are open from 12 to 15 inches at the center.

AUSTRAL SALES CORP.

101 PARK AVENUE
NEW YORK

The openings at the center of the **AUSTRAL WINDOWS** deflect the incoming air up into the center of the room, giving perfect ventilation with no danger of draft.

^{*}AUSTRAL WINDOWS, AUSTRAL WARDROBES, AUSTRAL FOLDING PARTITIONS, ELLISON BALANCED DOORS (Distributors Metropolitan Area)